

UNITED STATES DISTRICT COURT

ORIGINAL

NORTHERN DISTRICT OF CALIFORNIA

Before The Honorable YVONNE GONZALEZ ROGERS, Judge

IMPINJ, INC.,)	Jury Trial
)	
Plaintiff,)	Volume 3
)	
vs.)	NO. C 19-03161 YGR
)	
NXP USA, INC.,)	Pages 438 - 654
)	
Defendant.)	Oakland, California
_____)	Friday, July 7, 2023

REPORTER'S TRANSCRIPT OF PROCEEDINGS

APPEARANCES:

For Plaintiff:	Perkins Coie Washington Mutual Tower 1201 Third Avenue, 40th Floor Seattle, Washington 98101
BY:	RAMSEY M. AL-SALAM, JESSICA (JESSIE) DELACENSERIE, R. TYLER KENDRICK, CHRISTINA J. McCULLOUGH, STEVAN R. STARK, ATTORNEYS AT LAW
	Perkins Coie LLP 1900 Sixteenth Street, Suite 1400 Denver, Colorado 80202-5255
BY:	KEVIN BOULLY, PHD, SENIOR LITIGATION CONSULTANT

(Appearances continued next page)

Reported By: Raynee H. Mercado, CSR No. 8258

Proceedings reported by electronic/mechanical stenography;
transcript produced by computer-aided transcription.

RAYNEE H. MERCADO, CSR, RMR, CRR, FCRR, CCRR (510) 565-7228

A P P E A R A N C E S (CONT'D.)

For Plaintiff: Perkins Coie LLP
405 Colorado Street, Suite 1700
Austin, Texas 78701
BY: M. CRAIG TYLER, ATTORNEY AT LAW

Impinj, Inc.
400 Fairview Avenue N
Seattle, Washington 98109
BY: YUKIO MORIKUBO, GENERAL COUNSEL

For Defendant: Jones Day
Silicon Valley Office
1755 Embarcadero Road
Palo Alto, California 94303
BY: MICHAEL C. HENDERSHOT,
THARAN GREGORY LANIER, ATTORNEY AT LAW

Jones Day
110 N. Wacker Drive, Suite 4800
Chicago, Illinois 60606-7223
BY: LISA FURBY,
TIMOTHY J. HEVERIN,
JOHN M MICHALIK,
THOMAS W. RITCHIE, ATTORNEYS AT LAW

Jones Day
North Point
901 Lakeside Avenue
Cleveland, Ohio 44114
BY: ROBERT M. BREETZ,
T. KAITLIN CROWDER, ATTORNEYS AT LAW

Jones Day
555 South Flower Street
Los Angeles, California 90071
BY: JONATHAN MCNEAL SMITH, ATTORNEY AT LAW

Jones Day
51 Louisiana Avenue, N.W.
Washington, D.C. 20001
BY: R. LEVENT HERGUNER ATTORNEY AT LAW

A P P E A R A N C E S (CONT'D.)

ALSO PRESENT: Chris Diorio, Impinj, Inc.
Ralf Kodritsch, NXP USA, Inc.
Mikael Laughlin, NXP USA, Inc.
Mark Patrick, NXP USA, Inc.
Shuqian Yan, NXP USA, Inc.

--o0o--

I N D E XPLAINTIFF'S WITNESSESPAGEVOL.

OLIVER, RONALD

REDIRECT EXAM (RESUMED) BY MR. AL-SALAM

468

3

RE CROSS-EXAMINATION BY MR. HENDERSHOT

486

3

VIDEO DEPOSITION OF AMTMANN, FRANZ

491

3

VIDEO DEPOSITION OF ZACH, HERMANN

493

3

DURGIN, GREGORY DAVID

DIRECT EXAMINATION BY MS. MCCULLOUGH

494

3

CROSS-EXAMINATION BY MR. HENDERSHOT

547

3

REDIRECT EXAMINATION BY MS. MCCULLOUGH

585

3

DOSSETT, JEFFREY JOHN

DIRECT EXAMINATION BY MR. TYLER

598

3

CROSS-EXAMINATION BY MR. MICHALIK

617

3

REDIRECT EXAMINATION BY MR. TYLER

633

3

VIDEO DEPOSITION OF DANIELS, JOHN ANDREW

635

3

--o0o--

E X H I B I T S

<u>TRIAL EXHIBITS</u>	<u>W/DRAWN</u>	<u>IDEN</u>	<u>EVID</u>	<u>VOL.</u>
18			526	3
30 AND 32			506	3
157			493	3
224			636	3
335			493	3
597			517	3
1036			620	3
1046			625	3
1047			631	3
1272			552	3
1335			574	3
1373			579	3
1446			652	3

--o0o--

Friday, July 7, 2023

7:59 a.m.

P R O C E E D I N G S

--o0o--

(The following proceedings were heard out of the presence of the jury:)

THE CLERK: Your Honor, calling the matter of Impinj, Inc. vs. NXP U.S.A. 19-cv-3161-YGR. Parties, please step forward and state your appearances for the record.

MR. AL-SALAM: Ramsey Al-Salam of Perkins Coie for plaintiff Impinj; and I'm accompanied again by Christy McCullough, sitting on my side; Amy Stanton, sitting at the end of the table; Jessica Delacenserie; Marvin Craig Tyler; and then on our side out there, we have -- why am I blanking?

MR. HENDERSHOT: Yukio's your general counsel.

THE COURT: Mr. --

MR. AL-SALAM: Rachel Hand, Yukio Morikubo, Tan Wu, then Tyler Kendrick, Stevan Stark, and behind them is Dr. Durgin.

THE COURT: Okay. Good morning, everyone.

MR. HENDERSHOT: Good morning, Your Honor.

THE COURT: Mr. Hendershot, good morning.

MR. HENDERSHOT: Mike Hendershot of Jones Day on behalf of NXP, with me are John Michalik, Lisa Furby,

1 Derreck Lewis.

2 **THE COURT:** You know, that's -- they're never going
3 to let you forget that.

4 **MR. HENDERSHOT:** Your Honor, if I could come clean
5 for a moment, he looks very much like a dear high school
6 friend of mine named Robert. So I called him Robert for two
7 days at a trial previously, so it's something -- I just can't
8 dig out of this hole.

9 **THE COURT:** Yeah, it's -- I unfortunately called my
10 brother's girlfriend a prior girlfriend's name for a little
11 bit too long over a Christmas holiday. I get it.

12 **MR. HENDERSHOT:** Then so -- John, Lisa, Derreck,
13 Lori Murray, the paralegal, and again the expert of the team.
14 In the gallery is Robbie Breetz of Jones Day.

15 **THE COURT:** Okay.

16 **MR. HENDERSHOT:** Orion Martin.

17 **THE COURT:** Okay.

18 **MR. HENDERSHOT:** David Haas.

19 **THE COURT:** Another expert, yes?

20 **MR. HENDERSHOT:** Yeah. And Matthew Silveira from our
21 San Francisco office.

22 **THE COURT:** Okay. Terrific. If you've not found it
23 yet, a little shout out to Modern Coffee across the street,
24 excellent coffee there. Unfortunately, they don't -- she
25 closes. She used to be open a lot more, but after the

1 pandemic, everybody's got reduced hours. So I know you all
2 drink a lot of coffee because you talk very fast.

3 **MR. HENDERSHOT:** I'm trying to drink less in
4 deference to the court reporter, Your Honor.

5 **THE COURT:** Okay. We have a number of things to talk
6 about this morning.

7 Let's again start with your own lists. So what do you --
8 what do we have from the plaintiff, if anything?

9 **MR. AL-SALAM:** In terms of evidentiary issues, I
10 think the only thing is that Amtmann testimony. I think
11 that's been narrowed. We have no concern about him talking
12 generally about the -- the teardowns.

13 **THE COURT:** So I'll remind you the way I do things is
14 once -- I just want the list.

15 **MR. AL-SALAM:** Okay.

16 **THE COURT:** I don't want to hear -- I don't want to
17 hear anything about it. I just want the list.

18 **MR. AL-SALAM:** Okay. I think to begin with, we just
19 have the Amtmann testimony, and I have a procedural question
20 about introducing prior consistent statements by Mr. Oliver at
21 his deposition. And then I think there's, outstanding, an
22 issue with Ms. Kindler's testimony.

23 **THE COURT:** Okay.

24 **MR. AL-SALAM:** I think that's it.

25 Is that correct?

1 Yes.

2 **THE COURT:** Okay. How about you?

3 **MR. HENDERSHOT:** There is the Amtmann question, which
4 counsel identified. And then there is the question before the
5 court that I think was the subject of the email difficulties
6 with respect to Ms. Kindler's testimony.

7 **THE COURT:** Yeah.

8 **MR. HENDERSHOT:** So the list Counsel identified
9 subsumes ours.

10 **THE COURT:** Okay. And -- and then I have also the
11 issue of 1449, and I did read the deposition testimony last
12 night. Let me ask you, on the juror question, it seemed to me
13 that the first question was rolled into the examination.

14 Is the second question going to be addressed by anyone?

15 **MR. AL-SALAM:** Not by our side. I -- it sounds like
16 it relates to infringement to me. I don't understand how it
17 would be relevant to validity, and I don't have the answer to
18 it.

19 **MR. HENDERSHOT:** Your Honor, it will be addressed.

20 **THE COURT:** Okay.

21 **MR. HENDERSHOT:** It is relevant to willfulness. Our
22 client wrote them a letter before all of this started and
23 said, look, we have four pads. We don't have two pads. If
24 you look at the relevant pads, we don't think we infringe.

25 **THE COURT:** Okay.

1 **MR. HENDERSHOT:** It relates directly to that.

2 **THE COURT:** Okay. All right. So I'm going to leave
3 that alone.

4 All right. So let's talk about Amtmann because that's
5 coming up first, or that's most urgent it seems to me.

6 Okay. So I read the -- I had -- someone delivered, and
7 I'm assuming that both sides received what I received, right?
8 So portions of the transcript with respect to Amtmann. And is
9 this -- and I'm not saying that right -- Amt -- or --

10 **MR. HENDERSHOT:** You had it, Your Honor. You had it
11 correct, Amtmann.

12 **THE COURT:** Okay. All right. So I've -- I've read
13 what you provided me.

14 So now what's the issue?

15 **MR. AL-SALAM:** From plaintiff's side is, we don't
16 mind him talking about, generally, the teardowns. But -- and
17 I'm paraphrasing his testimony -- but his testimony, as I
18 understood it was, yes, we ordered these teardowns. I don't
19 really look at them. I sometimes check just to make sure
20 what's there is there and --

21 **THE COURT:** Let me -- let me just stop you.

22 What do you want him to say?

23 **MR. HENDERSHOT:** I'm going to ask him about the
24 teardown. And they've got depo testimony they're playing
25 before he gets up, live, on the stand. I'm going to have a

1 two-page exhibit, Your Honor, a pared-down schematic, like you
2 talked about yesterday, with the other one. I'm going to show
3 him a page and say, does this look like your product.

4 **THE COURT:** Does that look like your product?

5 **MR. HENDERSHOT:** Yeah. It's factual testimony that
6 he is aware of, and it's a document he has reviewed before.

7 **THE COURT:** Okay. And there's an objection to that?

8 **MR. AL-SALAM:** The objection is at the deposition, he
9 acted as if he had not reviewed it and --

10 **THE COURT:** Well, okay. So the deposition was taken
11 on April 5th, 2022, right? And he's going to testify that
12 he's looked at this since April 5th, 2022?

13 **MR. HENDERSHOT:** That page.

14 **THE COURT:** I don't think it's excludable. You can
15 cross-examine him on it.

16 **MR. AL-SALAM:** Thank you.

17 **THE COURT:** But -- and, you know, you can
18 cross-examine it with -- I mean, perhaps he should have done
19 it as a 30(b)(6). I don't know what the topics were or what
20 his prep was, but you can cross-examine him on it.

21 **MR. AL-SALAM:** He was a 30(b)(6) on the teardowns,
22 and we did ask him if he'd looked at it. And he said no, and
23 he did also say he wasn't a circuit person.

24 **THE COURT:** Okay. Well --

25 **MR. HENDERSHOT:** Then --

1 **THE COURT:** Then the jury -- then the jury will judge
2 whether or he's a credible witness and whether or not he was
3 obfuscating before coming to trial.

4 Okay. So that comes in. So then that takes care of that
5 issue.

6 Now, let's -- let's talk about Kindler and -- and those
7 issues because I know -- I've got this -- I have a draft
8 order, but I need to hear from you all with respect to that.

9 Let me say --

10 **MR. HENDERSHOT:** Your Honor, Ms. Furby's going to be
11 handling that for our side.

12 **THE COURT:** Okay. Thank you. Ms. Furby, good
13 morning.

14 **MS. FURBY:** Good morning, Your Honor.

15 **MR. AL-SALAM:** And Ms. Delacenserie for our side.

16 **THE COURT:** All right. Ms. Delacenserie.

17 So let me say just a couple of things. One is that even
18 with what you've provided me, it's still not -- the numbers
19 are still not flowing. And perhaps it was just too late last
20 night. But in any event, what I don't have from you -- and
21 there have been a lot of filings. So maybe you already gave
22 it to me, and I missed it.

23 What I -- what I don't have is what Federal Circuit law
24 says about what sales are under the relevant code section.
25 Have you given me the law? Because if there's a factual

1 dispute that the jury is going to decide, I don't have
2 instructions based upon the law as to what the objective
3 standard is. So do I have that somewhere?

4 **MS.DELACENSERIE:** It was included in our proposed
5 jury instructions, and it looks like that's been removed in
6 the draft that we received back from the Court.

7 But we did include that in there with citations to case
8 law. There isn't a clearcut standard, but we did provide some
9 language that we had used in the other trial to describe the
10 standard as we understand it.

11 **THE COURT:** So what is the standard?

12 **MS.DELACENSERIE:** It is substantial sales activities.
13 So there isn't one single factor that determines whether a
14 sale has been made in the U.S. versus outside the U.S.
15 It's -- it's the totality of the -- of the facts. And they're
16 very -- most of the case law is very fact specific, so
17 there -- there isn't really a single test. But there are a
18 number of things that can be considered such as where sales
19 were negotiated, where they -- where sales contracts were
20 executed, where products were delivered, where they were
21 shipped from, things like that.

22 **MS. FURBY:** I generally agree with that
23 characterization, that they did propose something in the jury
24 instructions because we had this pending issue of whether it
25 should come in or not. We did not -- we can provide -- I

1 would -- the -- the court in Washington put in an instruction
2 on this, it was very brief, just that there was no one
3 exclusive factor for whether something was a substantial sales
4 in the United States. We're happy to provide that language to
5 Your Honor if that's useful.

6 **THE COURT:** So it seems to me from what I've read and
7 given how you've articulated the standard that there is a
8 factual dispute on this topic. On that particular ground, it
9 seems as if the evidence should be allowed in, that there
10 needs to be a clear delineation between the sales that fall
11 under that category and those that do not so that if this case
12 goes up to the Federal Circuit on appeal and the Federal
13 Circuit -- I take it from what you're saying, I don't have
14 Federal Circuit authority, or do I have Federal Circuit
15 authority?

16 **MS.DELACENSERIE:** You do. I believe we cited a few
17 Federal Circuit cases, but again, there isn't -- the Federal
18 Circuit has not provided a single test that is applicable in
19 every scenario.

20 **THE COURT:** The Federal Circuit, then, may want to
21 create law.

22 **MS.DELACENSERIE:** Yes.

23 **THE COURT:** And then they would have a very fulsome
24 record about what the factors were. And if they decide that
25 the factors as based upon the evidence in the trial were not

1 sufficient, they could easily strike those damages. And we
2 aren't talking about an insignificant number, so I do think
3 it's important and worth it to make sure that those two
4 numbers are bifurcated out and that they're separately
5 addressed.

6 **MS.DELACENSERIE:** Yes, Your Honor. They were
7 separated out in our opening presentation, too. We intend to
8 present them that way.

9 **THE COURT:** So on that ground, I think that the
10 evidence comes in. And again, I just -- I would much rather
11 have kind of a fulsome record on the issue.

12 All right. So let me check other grounds that were
13 raised. Or are there -- I was just going to -- double-check
14 if I had any other questions.

15 Is there anything else you want to say on that one?

16 **MS. FURBY:** Your Honor, we had talked about
17 disclosure and whether this was timely disclosed or not. I
18 think we laid that out in our papers, so I don't need to get
19 into it in detail, but just flagging that for you.

20 **THE COURT:** Yeah, and there's been some discussion in
21 our past hearings with respect to timeliness.

22 So response?

23 **MS.DELACENSERIE:** Your Honor, at the time of
24 Ms. Kindler's report, we didn't have the sales data available
25 to disclose these sales. And based on Mr. Rajen's deposition

1 before Ms. Kindler's report was prepared, we had no reason to
2 believe that this was a significant number of sales. He
3 said --

4 **THE COURT:** He said one -- and by the way, he said
5 one customer. He didn't say one sale. He said one customer,
6 and there is a big difference.

7 **MS.DELACENSERIE:** Yes. And he described it as one
8 instance. And there's other portions of his deposition where
9 he describes it as an isolated incident or isolated instance.
10 And so we --

11 **THE COURT:** Slow down. Slow down.

12 **MS.DELACENSERIE:** I mean, we had no data to verify
13 that. I mean, I tried to ask him, you know, if he had an
14 estimate, if he had any idea of how -- what percentage of
15 sales there were.

16 **THE COURT:** And I read that, and there was an
17 objection by Mr. Hendershot with respect to that line of
18 questioning, which I take into consideration as well.

19 So I'm going to allow it.

20 **MS.DELACENSERIE:** Thank you, Your Honor.

21 **THE COURT:** Okay. Any other issues with respect to
22 Kindler?

23 **MS. FURBY:** No, Your Honor.

24 **MS.DELACENSERIE:** No.

25 **THE COURT:** Okay. Let's see, prior consistent

1 statement?

2 **MR. AL-SALAM:** So, Your Honor, as you heard --

3 **THE COURT:** Hold on. Hold on. Let me get my book.

4 Remind me of the number.

5 **MR. AL-SALAM:** I'm sorry. The number?

6 **THE COURT:** The rule of evidence.

7 **MR. AL-SALAM:** Oh, it's 801(d).

8 **THE COURT:** Okay. Thanks.

9 **MR. AL-SALAM:** I think it's (d).

10 **THE COURT:** I'll tell you. I'm looking it up right
11 now.

12 Yes, prior statements. Okay.

13 801(d). And -- and who does this prior -- so this is a
14 prior consistent statement from Oliver?

15 **MR. AL-SALAM:** Yes, Your Honor. To -- to explain,
16 Mr. Hendershot pointed out yesterday that Mr. Oliver had said
17 that the something that's called version A in the provisional
18 application was synchronous while today -- yesterday, he said
19 it wasn't synchronous.

20 **THE COURT:** Yes.

21 **MR. AL-SALAM:** And what I want to do is show there
22 are other parts in his deposition where he made clear what
23 synchronous meant that wouldn't have encompassed version A. I
24 don't know if he misspoke or what he was thinking. But
25 it's -- in other words, there are many parts of his deposition

1 where he made absolutely clear his invention wasn't part of
2 the provisional application and that wasn't the definition of
3 synchronous he would apply.

4 **THE COURT:** Hold on. So the deposition transcript
5 that was given to me, Mr. Hendershot, did not have the
6 exhibits included in it. And in the testimony that was
7 referenced during the trial, there was -- I -- I looked at the
8 prior page, and there was a reference to an exhibit. And I
9 don't have that exhibit.

10 Can I have the exhibits?

11 **MR. HENDERSHOT:** Yes, Your Honor.

12 **THE COURT:** Okay.

13 **MR. HENDERSHOT:** All -- the exhibit that was being
14 discussed at the deposition, that portion, was Exhibit 3.

15 **THE COURT:** And can you remind me of the page number
16 that you used to impeach him? It was 1 --

17 **MR. HENDERSHOT:** I can. Let me --

18 **THE COURT:** 141 is where it --

19 **MR. AL-SALAM:** 147. And -- and I'm sorry to answer
20 for him, but we don't disagree that it's Exhibit 1376.

21 **THE COURT:** And you don't disagree that he, in fact,
22 said this during -- I mean, this -- this part of the
23 deposition goes on for a while.

24 **MR. AL-SALAM:** Yes, it does.

25 **THE COURT:** And that's what he, in fact, said.

1 **MR. AL-SALAM:** He did say that.

2 **THE COURT:** Okay. Now, let me -- hold on.

3 (Pause in the proceedings.)

4 **THE COURT:** Okay. So I -- as I understand it, then,
5 you're trying to seek additional statements under
6 801(d)(1)(B)?

7 **MR. AL-SALAM:** A prior consistent statement after
8 being confronted with an inconsistent statement.

9 **THE COURT:** Right. Okay.

10 **MR. AL-SALAM:** And --

11 **THE COURT:** Any -- any response?

12 **MR. HENDERSHOT:** Your Honor, I -- I apologize. My
13 copy of 801(d)(1)(B) is cut off on my sheet here. I just want
14 to -- there's a colon that suggests there's more to it than --

15 **THE COURT:** Well, there is a colon in subsection 1 --
16 or little I and double little I that seem to apply here.

17 "One, it's consistent to rebut an expressed or implied
18 charge that the declarant recently fabricated it or acted from
19 an improper -- a recent improper influence or motive in so
20 testifying." I'm not sure that applies.

21 But two little I, "to rehabilitate the declarant's
22 credibility as a witness when attacked on another ground."

23 **MR. HENDERSHOT:** Is that what he's offering to do, to
24 rehabilitate his credibility?

25 **MR. AL-SALAM:** Yes, and to show that he made a prior

1 consistent statement. I didn't think there would be a dispute
2 that it's admissible, but what I was concerned about
3 procedurally is that -- is that the Court wants to see these
4 portions of the deposition for inconsistent statements --

5 **THE COURT:** Well --

6 **MR. AL-SALAM:** Before --

7 **THE COURT:** -- I think it would be helpful.

8 Have you identified these for Mr. Hendershot?

9 **MR. HENDERSHOT:** That was going to be my request.

10 **MR. AL-SALAM:** I'm going to -- yes, I'm going to
11 right now if you don't mind.

12 **THE COURT:** Because it would just be faster if we
13 know in advance what they are and if he can look at it, so we
14 don't to have sit here waiting to see if there's an objection.

15 **MR. AL-SALAM:** That's my -- that's my intent.

16 **THE COURT:** Okay.

17 **MR. AL-SALAM:** So the primary -- these were -- these
18 were all related to what "synchronous" means, which is I think
19 the issue and whether the invention was part of the
20 provisional. So first on Page 104.

21 **THE COURT:** So why don't you just give us the entire
22 list right now?

23 **MR. AL-SALAM:** Okay. I'm not sure I'm going to do
24 all of these, but let me -- I'll tell them all.

25 Exhibit 1 -- I mean, I'm sorry, Page 104, lines 10 through

1 21.

2 **MR. HENDERSHOT:** Your Honor, while he's flipping, I
3 want to know what he's going to introduce. He said he may do
4 some of these. He may not. If I could just get what he wants
5 to use, that would be helpful.

6 **MR. AL-SALAM:** Okay. I'll do them all.

7 **MR. HENDERSHOT:** Well, I'm not asking you to do them
8 all. Just tell me what you want to do.

9 **MR. AL-SALAM:** Well, that's what I --

10 **THE COURT:** You're not talking to each other, right?

11 **MR. HENDERSHOT:** Sorry, Your Honor.

12 **MR. AL-SALAM:** Okay.

13 **THE COURT:** Hold on. He's got things tagged.

14 So tell me --

15 **THE COURT:** Here's another one, 79, line 15 through
16 80, line 1.

17 Two more.

18 This is right after the testimony that was cited,
19 line 147 [sic], line 16, through 148, line 1.

20 **THE COURT:** That's it?

21 **MR. AL-SALAM:** Yes, that's sufficient, Your Honor.

22 **THE COURT:** All right. Let's take -- just -- I'm
23 going to look at it. Mr. Hendershot's going to look at it.
24 So --

25 Mr. Hendershot, you let me know when you're ready.

1 **MR. HENDERSHOT:** Thank you, Your Honor.

2 (Pause in the proceedings.)

3 **MR. HENDERSHOT:** I can take them serially,
4 Your Honor. Do you want me to read them all and address them
5 all?

6 **THE COURT:** So I want to know if there is some kind
7 of objection.

8 **MR. HENDERSHOT:** On -- okay.

9 **THE COURT:** Because, again, I don't have all these
10 exhibits so --

11 **MR. HENDERSHOT:** So I will -- I will tell you I do
12 have an objection to 104 for the purpose he's identified
13 because it's talking about a different figure than what we
14 were talking about. I don't see how that is consistent when
15 he asks testimony about one figure and then there is a
16 different figure.

17 **THE COURT:** Okay. So let's just keep going.

18 **MR. HENDERSHOT:** Okay.

19 **THE COURT:** Then 79?

20 (Pause in the proceedings.)

21 **THE COURT:** So I don't see how 79 is consistent -- or
22 a prior consistent statement. It just explains what it is.

23 **MR. AL-SALAM:** Oh, yeah, and let me --

24 **THE COURT:** Hold on. So let's look at the last one,
25 147.

(Pause in the proceedings.)

THE COURT: All right. Are you ready?

MR. HENDERSHOT: Yes, Your Honor.

THE COURT: So what's your perspective on 147?

MR. HENDERSHOT: I don't think it fits the -- the rule and why he's using it for. But it's -- it -- it's not saying -- the point he's saying he wants the rehabilitate his credibility on whether that figure is a -- is synchronous or not, as the witness testified. And this is talking about whether they put in it a commercial product or not. That doesn't have anything to do with the point that is being made.

THE COURT: So I agree.

MR. AL-SALAM: My response would be there's an implication that the invention is what's version A because there were -- and he specifically said, we never put it in a commercial product, which he --

THE COURT: But you can ask him that. It doesn't mean -- he can testify to that. It doesn't mean that you can read his statement --

MR. AL-SALAM: Okay.

THE COURT: -- from his deposition.

So 147 does not come in.

79, again, that statement doesn't come in. That doesn't -- that -- that doesn't specifically -- you can ask him the question. You can even ask him whether he said it in

1 his deposition. And the answer to that question would be yes.
2 But that doesn't mean you can read his deposition.

3 **MR. AL-SALAM:** So I can ask him in -- did you say in
4 your deposition this wasn't part of your invention? This --
5 and can -- and did you explain what synchronous meant in your
6 deposition? Because --

7 **THE COURT:** Well, yeah. I mean, it's -- he did. I
8 mean, but he did it generically.

9 **MR. AL-SALAM:** He -- well, but both of those make
10 clear -- and this is the explanation -- they have plus minus,
11 plus minus, plus minus.

12 **THE COURT:** And he's testified to that.

13 **MR. AL-SALAM:** But --

14 **THE COURT:** My only point is that what you've cited
15 to me in a vacuum, which is what you're asking to do, to read
16 in it that vacuum. You're not asking to read Pages 79 to 147.
17 That particular statement does not fall within 801(d).

18 **MR. AL-SALAM:** I only disagree because it was
19 suggested that he's changed his definition of what
20 "synchronous" means.

21 **THE COURT:** I -- I didn't -- okay. Well, respond. I
22 guess I didn't understand it that way. But go ahead.

23 **MR. HENDERSHOT:** I was asking him about a figure that
24 they made a big deal about because it was on an opening slide
25 and whether he said that was synchronous or not. That -- that

1 is what they say they want to rehabilitate. And this -- these
2 don't have anything to do with that figure. And I will -- I
3 can address the middle quote as well because I've now actually
4 read a bit of the surrounding transcript.

5 The one on Page 104 --

6 **THE COURT:** Okay.

7 **MR. HENDERSHOT:** -- is talking about a figure in the
8 patent, I believe, Your Honor, not something in this exhibit
9 at all. It's 8B from the patent.

10 **MR. AL-SALAM:** May I respond?

11 **THE COURT:** You may.

12 **MR. AL-SALAM:** Again, as -- as Mr. Hendershot said,
13 they suggested that he has just made up this definition of
14 synchronous. What he --

15 **THE COURT:** I don't --

16 **MR. AL-SALAM:** What --

17 **THE COURT:** -- I don't think that that's what they
18 suggested. What we were talking about was the application and
19 what he said about the application. Now, you can ask him on
20 redirect what he was talking about. But if 104 relates not to
21 the application -- and I don't have the exhibit, but I'll take
22 him for his word. If it doesn't relate to the application,
23 then it is not a direct rehabilitation.

24 **MR. AL-SALAM:** It's a direct rehabilitation about
25 whether he was testify- -- whether he changed his definition

1 of the meaning of "synchronous" because in the deposition,
2 even in the first one, he says part of the invention is
3 controlling the gates of the transistors with the incoming
4 signals. That makes them synchronous.

5 That -- what we saw in the application, there wasn't a
6 plus minus, plus minus. So the 8B he's referring to is from
7 the patent, and I can tell him what does it say in the patent.

8 **THE COURT:** That's what -- that's -- then what --

9 **MR. HENDERSHOT:** Okay.

10 **THE COURT:** -- that's what redirect is.

11 **MR. AL-SALAM:** But --

12 (Simultaneous colloquy.)

13 **MR. AL-SALAM:** -- there was a suggestion that he made
14 an inconsistent statement. And I'm trying to show he
15 consistently in his deposition said what synchronous meant.
16 And he made a mistake. He did make a mistake.

17 **THE COURT:** Well, then he can say that.

18 **MR. AL-SALAM:** Okay.

19 **THE COURT:** But none of this -- none of the specific
20 cites that you have given me specifically indicate that on
21 that particular thing he said something different in his
22 deposition.

23 It may be as you piece it together that may have been what
24 happened, but I don't think that that's what 801(d)(1) refers
25 to.

1 **MR. AL-SALAM:** Is the Court allowing me to say, in
2 your deposition did you explain your understanding of what
3 synchronous meant?

4 **THE COURT:** Well, I see that he did.

5 **MR. AL-SALAM:** So I can ask him that?

6 **THE COURT:** You can ask him that.

7 **MR. AL-SALAM:** Thank you.

8 **MR. HENDERSHOT:** And he can ask his witness
9 questions. I'm not saying he can't, Your Honor. The only --

10 **THE COURT:** You actually won this round --

11 **MR. HENDERSHOT:** Yeah.

12 **THE COURT:** -- so I don't know why you're still
13 talking.

14 **MR. HENDERSHOT:** I understand, Your Honor. I'm
15 trying to avoid an unnecessary objection. I don't think he
16 intends to do it, but if he's going to get up and read the
17 transcript --

18 **MR. AL-SALAM:** No, no.

19 **THE COURT:** He's not because --

20 **MR. HENDERSHOT:** Understood.

21 **THE COURT:** -- that would be a problem with me and he
22 knows that.

23 **MR. HENDERSHOT:** Understood, Your Honor. And I will
24 shut my mouth now.

25 **THE COURT:** Okay.

1 All right. You all got your time sheets, everybody -- no
2 questions about how that works?

3 **MR. AL-SALAM:** So we should go get Mr. Oliver,
4 correct?

5 **MS. FURBY:** Your Honor, just a few things on the time
6 sheet. Mr. Oliver's direct, he had a start time at 10:53.

7 **THE COURT:** So --

8 **MS. FURBY:** So there's a few --

9 **THE COURT:** Stop.

10 **MS. FURBY:** Sure.

11 **THE COURT:** Let me explain again how this works. I
12 get four and a half hours, and the only -- so it's four and a
13 half hours minus what you've done. And I had your cross of
14 Oliver from 12:35 to 1:35.

15 **MS. FURBY:** Yeah, the issue is not with the cross.
16 There's no -- there's no Oliver direct on here.

17 **THE COURT:** They have four and a half hours minus
18 what you do, so I don't -- the clock keeps running. I don't
19 have a start time because their clock has not stopped running.

20 **MS. FURBY:** Okay. Thank you, Your Honor.

21 **THE COURT:** Okay.

22 **MR. HENDERSHOT:** For fear of breaking my promise to
23 close my mouth, we've had some folks join us that I wanted to
24 introduce, Your Honor.

25 **THE COURT:** Ah, okay.

1 **MR. HENDERSHOT:** From NXP is Shugian Yan.

2 **THE COURT:** Okay. Good morning.

3 **MR. HENDERSHOT:** And I don't have my glasses.

4 Mikhail Lotvin from NXP legal, and then Mark Patrick as well
5 from NXP.

6 **THE COURT:** Good morning.

7 **MR. HENDERSHOT:** In addition to Mr. Kodritsch, who is
8 looking very pensive, who you have met before.

9 **THE COURT:** Mr. Patrick, have I seen you before?

10 **MR. PATRICK:** Yes, ma'am. Nine years ago.

11 **THE COURT:** Freescale?

12 **MR. PATRICK:** That's right.

13 **THE COURT:** So, you know, I tell people about that
14 case, not by name, but I tell them that's the only time my
15 brains really hurt in a trial.

16 **MR. PATRICK:** That was your first trial, Your Honor,
17 I believe, first patent trial.

18 **THE COURT:** Could have been. Could have been.
19 Little bit -- little bit of time has passed since then. And I
20 would say that this one's gone much more smoothly than that
21 one.

22 **MR. PATRICK:** Yes, ma'am.

23 **THE COURT:** Okay.

24 We have the jury?

25 **MR. MICHALIK:** This is John Michalik on behalf of

1 NXP. I have some agreed exhibits that we could enter today.

2 **THE COURT:** Yes. And if you could just pass me the
3 list.

4 And let's get the jury.

5 And we have Mr. Oliver, he could be back on the stand.

6 All right. They're not quite -- we're waiting on one.

7 We'll stand in recess till the juror gets here. Obviously
8 this doesn't come out of your time.

9 **MR. AL-SALAM:** Thank you.

10 **THE COURT:** Okay. We'll stand in recess.

11 **THE CLERK:** Court is in recess.

12 (Recess taken at 8:31 A.M.; proceedings resumed at 8:35
13 A.M.)

14 (The following proceedings were heard out of the presence
15 of the jury:)

16 **THE COURT:** Okay. We'll go back on the record just
17 very briefly.

18 We have -- what is that sound?

19 Okay. We're back on the record very briefly. Juror
20 number 5 is sick. We will be moving forward without him.

21 **THE CLERK:** Please rise for the jury.

22 (The following proceedings were heard in the presence of
23 the jury:)

24 **THE COURT:** Okay. Welcome back. Everyone can be
25 seated. We are back on the record.

1 The record will reflect that the jury is here.

2 Juror number 5 is not going to be with us, so if you all
3 want to move one seat closer so you can be closer to the
4 witness, on the back row, you can.

5 Okay. All right.

6
7 **RONALD OLIVER,**

8 called as a witness for the PLAINTIFF, having been previously
9 duly sworn, continued testifying as follows:

10 **REDIRECT EXAMINATION (RESUMED)**

11 **BY MR. AL-SALAM:**

12 **Q.** Good morning, Mr. Oliver.

13 **A.** Good morning, Mr. Al-Salam.

14 **Q.** Did you talk to anyone about your testimony since
15 yesterday?

16 **A.** Not at all.

17 **Q.** Have you talked to me at all since yesterday?

18 **A.** I have not.

19 **Q.** Okay. I want to go over some of the things that
20 Mr. Hendershot asked you about. You were asked a lot about
21 what charge-accumulating path means.

22 As the inventor of this patent, do you have an
23 understanding of what the patent teaches about what
24 charge-accumulating path means?

25 **A.** Yes, I do. There's a few places in the patent that

1 mention charge-accumulating path. And -- and speak of a path
2 through this synchronous element that we've been talking
3 about.

4 **Q.** Now, we also -- there was stuff about what is a
5 synchronous element.

6 What does the patent teach about what is a synchronous
7 element?

8 **A.** The patent teaches a specific arrangement of some
9 transistors and some capacitors. And those transistors and
10 capacitors being driven in such a way that -- that activates
11 the synchronous switching.

12 **Q.** Let me show you 8B, figure 8B from Exhibit 1, the patent.

13 Or you have it -- you may have it as Exhibit 1 there, too.
14 It will come up in a second, I think.

15 Let's wait till it gets it on the screen.

16 **THE COURT:** All right. I think we're moving -- go
17 ahead. Exhibit 1.

18 (Exhibit published.)

19 **BY MR. AL-SALAM:**

20 **Q.** Now, what is -- what is depicted in Exhibit -- in
21 figure 8B of Exhibit 1?

22 **A.** What we see here is something that's been defined as a
23 rectifier stage. We spoke yesterday about some stages,
24 repetition elements in the rectifier. And what we see here is
25 one these synchronous elements and we -- we see two arrows

1 that point to the beginning of a charge-accumulating path and
2 then another arrow pointing towards the end of a
3 charge-accumulating path.

4 **Q.** At what makes that element that says "synchronous element
5 one," what makes it synchronous? Why do they call it
6 synchronous?

7 **A.** There are a few requirements. One is the correct
8 arrangement of transistors and capacitors. We see -- for
9 example, starting from the left, we see a capacitor that --
10 that says "RF plus" at -- at its top. Then we see a
11 transistor, we know that's a P-type transistor, that's RF
12 minus. Then we see another transistor, an N-type transistor,
13 RF plus. And then final capacitor driven with RF minus.

14 To be synchronous we need these structural pieces in
15 place. To act synchronous, to -- to activate the switching,
16 we need the correct connections. RF plus, RF minus, RF plus,
17 RF minus.

18 **Q.** Now, let's take a look at Exhibit 1376, which was the
19 provisional application.

20 (Exhibit published.)

21 **BY MR. AL-SALAM:**

22 **Q.** First of all, have you ever -- have you ever said that the
23 invention of the '597 patent is --

24 **MR. AL-SALAM:** No, 13 -- oh, I'm sorry. I have the
25 wrong exhibit.

1 It's the provisional application.

2 (Exhibit published.)

3 **MR. AL-SALAM:** There it is.

4 **Q.** Have you ever said that the '597 invention is disclosed in
5 this provisional application?

6 **A.** I -- I don't believe I have.

7 **Q.** Has -- to your -- to your knowledge, has anybody ever
8 claimed the '597 invention is in the provisional application?

9 **A.** I don't think so. My understanding, this is provisional.
10 It's meant to capture just some early ideas.

11 **Q.** And you're -- you're familiar with provisionals versus
12 nonprovisionals?

13 **A.** Somewhat. I don't prepare the provisional, but I know
14 what it's for.

15 **Q.** For a provisional, does an inventor have to sign anything
16 that says, I declare this is my invention?

17 **A.** I don't -- I don't recall ever doing so.

18 **Q.** For a regular application, does an inventor have to sign a
19 declaration that says, this is my invention?

20 **A.** Yes, in general we do.

21 **Q.** So let's -- let's look at one other thing. We have some
22 stipulated facts in this case and they're in the jury binders.
23 I want to bring those up.

24 (Demonstrative published.)

1 **BY MR. AL-SALAM:**

2 Q. Let's look at number 11. It says -- can you read it to
3 the jury?

4 A. Yes, I can see number 11. The '597 was filed on
5 March 4th, 2008.

6 Q. Now, let's go back to the front page of Exhibit 1.

7 (Exhibit published.)

8 **BY MR. AL-SALAM:**

9 Q. Now, there is a filing date. It says March 4, 2008.

10 Was that the date we just saw --

11 (Simultaneous colloquy.)

12 **THE WITNESS:** That's correct.

13 **BY MR. AL-SALAM:**

14 Q. Is that is the provisional application; do you know?

15 A. That was not the provisional.

16 Q. Then let's -- let's look below it.

17 (Exhibit published.)

18 **BY MR. AL-SALAM:**

19 Q. Was the provisional application before it?

20 A. Yes, we can see with the number 60 a -- a designation, the
21 provisional application filed March 7th, 2007.

22 Q. Okay. So the parties have stipulated that this patent was
23 filed not with the provisional but with the nonprovisional?

24 A. I believe so.

25 Q. Okay. Let's -- let's take a look at one of the figures in

1 the nonprovisional. The 1367 -- I'm sorry for going back and
2 forth.

3 (Exhibit published.)

4 **BY MR. AL-SALAM:**

5 **Q.** And we're going to look at the figure in 1367 that says
6 "The single path version A," which is on Page 6 of the
7 figures.

8 (Exhibit published.)

9 **BY MR. AL-SALAM:**

10 **Q.** Is -- do you see it?

11 **A.** I see it, yes.

12 **Q.** Can you explain to the jury why -- why you testified this
13 is not a synchronous rectifier?

14 **A.** I can. If we look at the elements that are present, we
15 see elements that -- structurally, they have the right
16 components to be a synchronous element, but they're not
17 connected in a way that activates synchronous switching. So
18 if we have -- if we have a question of do we have the
19 elements, do we have the structure in place to be a
20 synchronous element, well, the structure's in place.

21 But then if we ask the question slightly differently, does
22 it have the correct connections to activate it as a
23 synchronous element, no, it doesn't have the right
24 connections. Would -- there are a couple that are reversed.

25 So whenever we look at this, there's an ambiguity in how

1 we interpret it, but the elements are present, the connections
2 are not correct.

3 **Q.** And why aren't the connections correct?

4 I -- at the -- at the top.

5 Does it have to do with -- something to do with the gates
6 of the transistors or why -- can you explain to the jury why
7 it's not a synchronous element?

8 **A.** Yes, I can. The gates -- the upper portion of the
9 transistors, these are the gates across the top (indicating).
10 Those control the transistor. Connected to the control
11 terminal transistor, we have control signals. Part of the
12 essence of this patent, of this invention, is that there are
13 control signals that are out of phase but synchronous with
14 each other.

15 And so we know that control signals up here, these are not
16 out of phase. These are, in fact, in phase with each other.

17 **Q.** How do you know when something's out of phase?

18 In the -- in the patent, how does it depict -- or does it
19 depict when something's out of phase?

20 **A.** In the patent, we speak of terminals and connections that
21 are connected to opposite sides of the antenna. And the two
22 terminals of antenna, they tend to move in opposite
23 directions. And we characterize that as being out of phase
24 with each other.

25 **Q.** Are there little symbols that tell you which phase is

1 there?

2 **A.** There -- there are different symbols used in different
3 contexts. Some -- some figures in the patent use antenna
4 connection one and antenna connection two. Here, we see RFB
5 and RFA. There's other places where it's called RF plus and
6 RF minus. They're all -- they're all equivalent. It's just
7 meant to denote that there's -- there are two different sides
8 of signal.

9 **Q.** Are plus and minus, are those different phases?

10 **A.** Those are different phases.

11 **Q.** Now, this -- this document -- it doesn't say "synchronous"
12 anywhere on it, correct?

13 **MR. HENDERSHOT:** Leading.

14 **THE COURT:** Sustained.

15 **BY MR. AL-SALAM:**

16 **Q.** Do you see the word "synchronous"?

17 **A.** I don't see the word "synchronous" here.

18 **Q.** Let's go three pages down.

19 (Exhibit published.)

20 **BY MR. AL-SALAM:**

21 **Q.** Now do you see the word "synchronous" on this page?

22 **A.** I do see "synchronous."

23 **Q.** And what's different about this page versus the last --
24 well, I say this illustration versus the last one we saw?

25 **A.** There are several differences. One is this is

1 differential that we can see at the bottom. And we can also
2 see that this one does have two paths -- whoops -- this one
3 has two paths (indicating) that go through it.

4 This one is -- I would say one of our experiments where we
5 were -- we were investigating one of those classic
6 architectures, but this -- this was not the invention that --
7 that we -- we eventually derived from that work.

8 **Q.** Okay. And did -- so were any of -- either of these
9 illustrations we've seen part of the '597 invention?

10 **A.** I don't believe so.

11 **Q.** Let's go back to the -- to the patent, and let's look at
12 Claim 1 of the patent. I just want to show you one part of
13 it.

14 (Exhibit published.)

15 **MR. AL-SALAM:** Let's go to the next page.

16 **MR. HENDERSHOT:** Your Honor, foundation and
17 potentially 702 depending on what the question is. I believe
18 the witness has said he does not analyze claims.

19 **MR. AL-SALAM:** I'm not asking -- well --

20 **MR. HENDERSHOT:** You're showing him the claim.

21 **THE COURT:** So let me hear question.

22 (Exhibit published.)

23 **THE COURT:** What's the question?

24 **BY MR. AL-SALAM:**

25 **Q.** Let's -- I want to just look at some of the language.

1 There is language that talks about a first synchronous
2 element. This is on the next page.

3 (Exhibit published.)

4 **BY MR. AL-SALAM:**

5 **Q.** So it says "as a plurality of coupled stages." and then it
6 says "a first synchronous element." And then -- we don't have
7 to get into all the details. It -- it says a "first
8 transistor" and a "second transistor." And the first
9 transistor says it has "a gate coupled to receive the first
10 phase" and the second transistor --

11 **THE COURT:** Can you tell me what the question is
12 going to be?

13 **MR. AL-SALAM:** It's going to be what -- what does the
14 word "phase" mean when it says "A gate coupled to receive the
15 first phase for the first transistor"?

16 **THE COURT:** The objection?

17 **MR. HENDERSHOT:** The ones I stated.

18 **THE COURT:** Sustained.

19 **MR. AL-SALAM:** Okay. Let's go to 8D, the figure.

20 (Exhibit published.)

21 **MR. AL-SALAM:** 8B. B, as in boy.

22 (Exhibit published.)

23 **BY MR. AL-SALAM:**

24 **Q.** We looked at this before, the synchronous element.

25 Is -- what's the difference between RF plus and RF minus?

1 **A.** There -- there are signals here. There's an RF minus and
2 there's an RF plus. And these are opposite phases of the
3 signal that's coupled from the antenna.

4 **Q.** Thank you.

5 Now let's move to a different topic. Let's go to your --
6 you were asked about Exhibit 11A, Page 25.

7 (Exhibit published.)

8 **BY MR. AL-SALAM:**

9 **Q.** And as you recall, this is the -- the UCODE 8 schematic?

10 **A.** Yes, I remember that.

11 **Q.** Let's go to Page 25.

12 (Exhibit published.)

13 **BY MR. AL-SALAM:**

14 **Q.** And -- sideways. I think you were asked whether this
15 bottom part could be a charge-accumulating path.

16 Were you asked that?

17 **A.** The question I recall from yesterday related to a wire --
18 a signal that goes across here (indicating) in relation to a
19 charge-accumulating path.

20 **Q.** Is -- is that a charge-accumulating path in that
21 schematic?

22 **A.** I don't see any way that could be a charge-accumulating
23 path.

24 **Q.** Can you explain to the jury why?

25 **A.** There are a few reasons. One, we know that there is a

1 bias current and we -- and we know this because we've studied
2 bias currents very well. We know that they are nonsynchronous
3 elements. Like this is an example here where the gate
4 (indicating) terminal, that control terminal's connected right
5 to one of channel terminals. It's not synchronous. They're
6 minimum sized. And we can see that in this -- in this bias
7 circuit, we are creating a circulation that's -- that's where
8 we get the word "circuit." We're creating a circulation of
9 current. So I don't see any way to accumulate charge on this
10 path.

11 Another thing that I'll notice is that across the bottom
12 we have capacitors. In particular, the capacitor that we were
13 looking at yesterday related to that path is a minimum-sized
14 capacitor. It's the smallest capacitor type on this diagram.
15 That indicates to me that this is not going to do anything
16 more than just provide that bias circuit that we needed to get
17 a voltage that gets the transistor close to its active
18 operating region.

19 **Q.** Well, why would that capacitor be there?

20 **A.** The bias is generated by the pumping action. Although
21 it's a very inefficient pumping action, there's a pumping
22 action on this charge pump path here. It needs to be very,
23 very small. And we can notice there's a -- there's a word on
24 those capacitors that says "fingers." And so some of these
25 say "fingers three", that's the smallest number we'll see

1 associated with fingers, and those couple right into that path
2 (indicating).

3 So that combination of the minimum-size transistors, the
4 minimum-strength transistors and the minimum-size capacitors
5 indicates that that was intended for the very same purpose
6 that we use those circuits for, just to generate the bias
7 voltage.

8 Q. Thanks.

9 Let's -- let's now go to another subject. You were shown
10 Exhibit 16, the M700 schematics. Let's look at Page 120 of
11 Exhibit 16.

12 (Exhibit published.)

13 BY MR. AL-SALAM:

14 Q. Do you recall this?

15 A. I remember this from yesterday, yes.

16 Q. And are -- what is depicted here?

17 A. This is the rectifier from M700 with its stages, stages
18 one through ten.

19 Q. Are the stages that are referred to here the same as the
20 stages referred to in the patent?

21 A. They're not precisely the same. They serve the same
22 function. Yesterday we talked about how to define a stage and
23 the boundary of a stage. These stages are defined in terms of
24 their structure and that's -- that's the easiest way for us to
25 do it in a schematic and in the layout.

1 The beginning of stage one is a little bit different than
2 what we speak of in the patent. But in both cases, we still
3 speak of a repetition.

4 Q. Are there two synchronous elements in each of these
5 stages?

6 A. I believe so. I don't remember the details down inside
7 the stages because we, in different designs, have declared
8 either a single synchronous element in some designs, previous
9 designs, or the pair -- pairwise synchronous elements to be a
10 stage.

11 Q. And let me show you Page 133 and see if this refreshes
12 your recollection.

13 (Exhibit published.)

14 BY MR. AL-SALAM:

15 Q. Do you recognize 133, Page 133?

16 A. I do, yes.

17 Q. What is this?

18 A. This is the switching transistors. Right here we see one
19 of those transistors and another one of the transistors
20 (indicating) along a charge-accumulating path.

21 Q. Does -- is this a stage as exhibited on Page 120?

22 A. Yes. On this schematic, we can see the word "stage" in
23 the title block.

24 Q. Is this is the same as the stage in the patent?

25 A. As we mentioned before, it's not precisely the same. But

1 once -- remember that -- the -- the concept of stages is
2 something that we use as a convenience for analysis. A
3 stackup of these stages, that's what appears in the actual
4 circuit and the actual chip. The -- the beginning of the --
5 of the window of what we call stage is going to start at a
6 slightly different spot.

7 When we were looking at a synchronous element in
8 figure 8B, we saw that it started with a capacitor, a P-type
9 transistor. And we remember that it's P-type because it's got
10 little circle on it, kind of looks like a P. If we were to
11 take this, copy and repeat, what we would see -- in the next
12 one we would see the N-type transistor and we would also see
13 capacitors.

14 That corresponds to the synchronous element of figure 8B.

15 **Q.** Let's go to another. I'm going through a bunch of the
16 topics that you were asked about. There was a question about
17 the tear -- the UCODE 8 teardown. I just want to make sure
18 the jury doesn't get confused.

19 Does Impinj do teardowns in the regular course of its
20 business?

21 **A.** No.

22 **Q.** And the UCODE 8, was that -- why was that done?

23 **A.** UCODE 8 was a special case. Impinj, we felt like we had
24 reason to believe that there was -- there was some copying,
25 frankly. And -- and my understanding is that through

1 discussions with NXP it became necessary for us to order that
2 teardown.

3 Q. Going to another topic. There was a topic -- there was
4 something about gold pads.

5 Do you remember that?

6 A. I remember that.

7 Q. Are you aware of any patent NXP has on gold pads?

8 A. I do not know of any.

9 Q. Are you aware of any correspondence that NXP's ever sent
10 us that said don't use gold pads?

11 A. I -- I don't know of any. I've -- Impinj has always used
12 gold -- up -- up until Monza R6 all of the pads that Impinj
13 has ever used were gold on their surface.

14 Q. There was some talk about the Enduro features and the
15 benefits of Enduro.

16 Do you remember that?

17 A. I remember that.

18 Q. And I think you said Enduro encompassed different
19 features; is that right?

20 A. Yes.

21 Q. In terms of the value of the flared channels to the
22 overall Enduro features, do you have an estimate of -- of
23 its -- if it's -- of its contribution or value to those
24 features?

25 THE COURT: Hold on.

1 **MR. HENDERSHOT:** Object.

2 Objection, Your Honor, 702 and foundation. I don't want
3 to argue the -- his lack of expertise in the space, but there
4 is a record.

5 **THE COURT:** So there are multiple questions -- it's
6 compound, for one.

7 Two -- trying to think, was this even -- was this even in
8 the scope of cross? I mean, the scope of your cross?

9 **MR. HENDERSHOT:** I did not ask the witness to
10 quantify any relative value among these, and I believe he's
11 testified before that he doesn't do that.

12 **MR. AL-SALAM:** He did ask about the value of the
13 different -- the benefits and value of the different aspects
14 of the Enduro features. And I'm asking him only what the
15 relative value is of the patented feature.

16 **THE COURT:** All right. You can -- you can answer
17 that very narrowly if you can. Relative value, not numerical
18 value.

19 **MR. AL-SALAM:** Thank you, Your Honor.

20 **THE COURT:** Overruled.

21 **THE WITNESS:** As we spoke of it related to Enduro,
22 it's a set of features, and it's a set of technologies. They
23 all play a role in -- in this -- in the very valuable
24 improvement in the ease of manufacturing and improved
25 manufacturability. It -- if I -- if I were to estimate a

1 relative value between them, I'd say that they -- they all --
2 they contribute -- the large pads and the shaped channel, they
3 seem to me to have a nearly equal contribution.

4 **BY MR. AL-SALAM:**

5 **Q.** You were also shown the exhibit about -- well, you were
6 shown both our rectifier and the UCODE 8 rectifier.

7 In your view, do they work the same way?

8 **A.** I can speak to the structure, and I can say that
9 electrically, the structure is nearly the same, is -- is very,
10 very similar.

11 **Q.** One more question. You were asked at the very end about
12 AutoTune and a patent in this case, whether a patent in this
13 case on AutoTune had been dismissed.

14 Do you remember that?

15 **A.** I remember that question.

16 **Q.** Is there other litigation between Impinj and NXP where
17 Impinj is asserting patent infringement?

18 **A.** There is. There are a few cases.

19 **Q.** And do you know whether Impinj has a patent it's asserting
20 against NXP on AutoTune in another case?

21 **A.** In -- there are other -- yes, there are other AutoTune
22 patents in other cases.

23 **MR. AL-SALAM:** Those are all my questions. Thank
24 you.

25 **THE COURT:** Recross limited to the scope of redirect.

1 **MR. HENDERSHOT:** Notes fit on a Post-it, Your Honor.

2 **RECROSS-EXAMINATION**

3 **BY MR. HENDERSHOT:**

4 **Q.** Good morning, Mr. Oliver.

5 **A.** Good morning, Mr. Hendershot.

6 **Q.** I need glasses to read my own handwriting, sadly.

7 **MR. HENDERSHOT:** Could I see Exhibit 1, figure 8B
8 that I believe he was asked about?

9 (Exhibit published.)

10 **MR. HENDERSHOT:** And figure 8B, if you could zoom in
11 on that, please.

12 (Exhibit published.)

13 **MR. HENDERSHOT:** You were -- could we zoom in on --
14 thank you, Mr. Lewis.

15 **BY MR. HENDERSHOT:**

16 **Q.** You were asked some questions about this figure, correct?

17 **A.** Yes.

18 **Q.** So I think you said there was a charge-accumulating path
19 here that flows (indicating) through there; is that right?

20 **A.** Yes.

21 **Q.** And there's a letter -- letters, BN, to the left there?

22 Do you see that?

23 **A.** I see BN.

24 **Q.** Is that the beginning of the charge-accumulating path?

25 And the BN's just to the left of that box for synchronous

1 element one, right?

2 **A.** Yes, it -- that N in BN stands for a node, and that -- a
3 connection among different devices, we call this a node.

4 **Q.** Okay. And then is the EN the end node as well?

5 **A.** Yes.

6 **Q.** Okay. And that's the end of charge-accumulating path
7 there to the right of that box?

8 **A.** Of -- yes. Related to that synchronous element, the first
9 element one.

10 **Q.** Okay. And no other transistors or capacitors illustrated
11 here other than on that path?

12 **A.** There's none on this -- on this diagram.

13 **Q.** Okay.

14 **MR. HENDERSHOT:** You can take that down.

15 Can I see Exhibit 16, Page 120.

16 **BY MR. HENDERSHOT:**

17 **Q.** This is the UCODE 7 schematic you were asked about. I
18 believe you talked about --

19 **MR. AL-SALAM:** Sorry, mischaracterizes.

20 **THE COURT:** So let's just --

21 **MR. HENDERSHOT:** I'm sorry. I --

22 (Simultaneous colloquy.)

23 **THE COURT:** -- characterization.

24 **MR. HENDERSHOT:** Yeah.

25 **THE COURT:** Let's just keep going. We've got that

1 page, which we've seen before. Keep going.

2 What's your question?

3 **BY MR. HENDERSHOT:**

4 **Q.** Is this is the 700 series schematic?

5 **A.** This is the rectifier for M700.

6 **Q.** Thank you. I misspoke.

7 And you talked about defining the boundaries of stages in

8 a rectifier in response to questions that counsel asked you.

9 These stages in this schematic is how Impinj's engineers
10 define the boundaries of their stages in the 700 series,
11 right?

12 **A.** I think I mentioned that this is using a structural
13 definition. So wherever we see the structure repeating, the
14 engineers are using a structural definition for stage
15 boundary.

16 **Q.** Each one of these boxes is labeled "stage," right?

17 **A.** That's correct.

18 **Q.** And when you refer to the M700 rectifier, you call it a
19 10-stage rectifier, correct?

20 **A.** That's correct.

21 **Q.** Okay. So Impinj engineers are referring to the stages in
22 this rectifier.

23 In their work, this is -- these are the boxes to which
24 they refer?

25 **A.** Yes.

1 **MR. HENDERSHOT:** Thank you. You can take that down.

2 **BY MR. HENDERSHOT:**

3 **Q.** You were asked some questions about other lawsuits.

4 Do you understand that in addition to Impinj asserting
5 that NXP infringes patents, NXP is asserting a number of
6 patents it contends Impinj infringes, for example, in Texas?

7 **A.** I understand that there was a -- a separate company called
8 RFMicron. And I also understand that RFMicron had some
9 patents related to SelfTune. That's -- and I believe that
10 those are -- are in a Texas case.

11 **Q.** And that case has not been resolved yet, correct?

12 **A.** It has not.

13 **Q.** Okay. And Impinj is excused of infringement in that case.

14 Is that your understanding?

15 **A.** My understanding is that there are -- there are cross
16 accusations.

17 **Q.** Both parties are accusing each other of infringement of
18 the other patents; fair to say?

19 **A.** I'd say that's fair.

20 **MR. HENDERSHOT:** That's all I have, Your Honor.

21 **THE COURT:** Redirect limited to the scope of recross,
22 and there's three topics.

23 **MR. AL-SALAM:** No. No questions, Your Honor.

24 **THE COURT:** Okay. Mr. Oliver, you may step down.

25 Is there any need to subject him to recall?

1 **MR. HENDERSHOT:** No, Your Honor.

2 **THE COURT:** All right. Then you're --

3 **THE WITNESS:** Thank you.

4 **THE COURT:** -- excused.

5 Next witness.

6 **MR. AL-SALAM:** Your Honor, now we're going to play
7 some deposition testimony.

8 **THE COURT:** Okay. So let me give the jury the
9 instruction first.

10 And these are video, right?

11 **MR. AL-SALAM:** Excuse me?

12 **THE COURT:** Video?

13 **MR. AL-SALAM:** Yes.

14 **THE COURT:** All right. Members of the jury, a
15 deposition is the sworn testimony of a witness taken before
16 trial. The witness is placed under oath to tell the truth,
17 and the lawyers for each party may ask questions. The
18 questions and answers are recorded. When a person is
19 unavailable to testify at trial, the deposition of that person
20 may be used at trial.

21 Insofar as possible, you should consider deposition
22 testimony presented to you in lieu -- in court in lieu of live
23 testimony in the same way as if the witness had been present
24 to testify.

25 Do not place any significance -- well, that doesn't apply

1 here because video, right?

2 **MR. AL-SALAM:** Yes, Your Honor.

3 **THE COURT:** All right.

4 You may proceed.

5 **MR. AL-SALAM:** We're going to -- may I just introduce
6 who the witness is?

7 **THE COURT:** All right. Go ahead.

8 **MR. AL-SALAM:** The first video will be of
9 Mr. Amtmann, who you will see later in person, but we have
10 some excerpts of his deposition.

11 (Video deposition of Franz Amtmann was played.)

12 **MR. HENDERSHOT:** Could we stop the tape?

13 **THE COURT:** Hold on.

14 Can you pause that?

15 **MR. HENDERSHOT:** I -- if they're going to zoom in on
16 portions of exhibits, I'd like them to zoom in on the part
17 that he's talking about and not exclude it.

18 **MR. AL-SALAM:** We don't have to zoom in.

19 **THE COURT:** Okay. Keep going.

20 **MR. HENDERSHOT:** Thank you.

21 (Video deposition of Franz Amtmann continued playing.)

22 **MR. AL-SALAM:** Those are all.

23 **THE COURT:** Okay. Next witness.

24 **MR. AL-SALAM:** And we would also offer Exhibits 30,
25 32, 157 -- oh, no. I'm sorry. Exhibits 30 and 32, which I

1 think were discussed on this clip.

2 **THE COURT:** Okay. I don't see that those are --
3 well, hold on.

4 Any objections?

5 **MR. HENDERSHOT:** No objections if the list is
6 accurate.

7 **THE COURT:** Okay. We'll talk about it later. I see
8 one of the two, but 30 and 32 provisionally admitted.

9 Next witness.

10 **MR. AL-SALAM:** I guess we have some more excerpts
11 from Mr. Amtmann's depositions.

12 **THE COURT:** Okay. Thank you.

13 (Video deposition of Franz Amtmann continued playing.)

14 **THE COURT:** Can we increase the volume? He's trying.

15 **THE CLERK:** That's it, Your Honor. We're maxed out.

16 **THE COURT:** All right. Go ahead.

17 (Video deposition of Franz Amtmann continued playing.)

18 **THE COURT:** No, that's not going to work. Okay.
19 Keep going. Let's try.

20 (Video deposition of Franz Amtmann continued playing.)

21 **MR. AL-SALAM:** I think that's the end of --

22 **THE COURT:** Okay.

23 **MR. AL-SALAM:** -- Mr. Amtmann's testimony.

24 And I believe now we're going to Mr. Zach, the product
25 manager that was referenced.

1 Correct?

2 **THE COURT:** All right. Proceed.

3 (Video deposition of Hermann Zach was played.)

4 **MR. AL-SALAM:** And I think we discussed -- he
5 discussed Exhibits 157 and 335, which I understand were on the
6 list of stipulated exhibits we provided to the Court
7 yesterday, and so we would offer those for admission.

8 **MR. HENDERSHOT:** No objection.

9 **THE COURT:** All right. Those are admitted.

10 (Trial Exhibits 157 and 335 received in evidence)

11 **THE COURT:** Next witness.

12 **MR. AL-SALAM:** Now, we call Dr. Greg Durgin to the
13 stand.

14 **MS. McCULLOUGH:** Good morning, Your Honor.
15 Christy McCullough for Impinj.

16 **THE COURT:** Good morning. And we'll go for about
17 15 minutes.

18 **MS. McCULLOUGH:** We have some witness binders for the
19 Court.

20 **THE COURT:** Okay. Hold on. Let him swear him in.

21 **MS. McCULLOUGH:** Pardon me?

22 **THE CLERK:** Please raise your right hand.

23 **GREGORY DAVID DURGIN,**

24 called as a witness for the PLAINTIFF, having been duly sworn,
25 testified as follows:

1 **THE CLERK:** Please be seated and speak clearly into
2 the microphone.

3 Please state your full name and spell out your last name.

4 **THE WITNESS:** It's Gregory David Durgin, and that's
5 spelled D-U-R-G-I-N.

6 **THE CLERK:** Thank you.

7 **THE COURT:** Good morning.

8 **THE WITNESS:** Good morning.

9 **THE COURT:** You may proceed.

10 **DIRECT EXAMINATION**

11 **MS. McCULLOUGH:** I have one witness binder for the
12 Court, Your Honor.

13 **THE COURT:** Thank you.

14 **BY MS. McCULLOUGH:**

15 **Q.** Good morning, Dr. Durgin.

16 How are you today?

17 **A.** I'm doing well. Thanks for asking.

18 **Q.** Can you tell the jury just a little bit about yourself?

19 **A.** Yes. I'm a professor at the Georgia Institute of
20 Technology, Georgia Tech, where -- and I live in Atlanta with
21 my wife and kids.

22 **Q.** Where did you grow up, Dr. Durgin?

23 **A.** I grew up in Maryland.

24 **Q.** And what was your educational background before you joined
25 Georgia Tech?

1 **A.** So I did all of my schooling at Virginia Tech, bachelors,
2 masters, and Ph.D., as well as a postdoctoral study at the
3 University of Osaka in Japan.

4 **Q.** What did you do at the University of Osaka?

5 **A.** I was studying wireless -- wireless technology that was
6 emerging at the time in the cellular industry.

7 **Q.** And what are you here for today, Dr. Durgin?

8 **A.** I'm here to give opinions, technical opinions, on the
9 matter of the NXP's infringement on the '597.

10 **Q.** The '597.

11 So we're talking about a rectifier right now, not big
12 pads?

13 **A.** That's right.

14 **Q.** Did you prepare some slides and graphics to assist your
15 testimony today?

16 **A.** I did.

17 **MS. McCULLOUGH:** And, Your Honor, there are no
18 objections to those. We'd ask that they be published.

19 **THE COURT:** You may proceed.

20 (Demonstrative published.)

21 **BY MS. McCULLOUGH:**

22 **Q.** Are these the slides you prepared, Doctor?

23 **A.** These are.

24 **Q.** I'd like to start with some professional qualifications,
25 Dr. Durgin.

1 **MS. McCULLOUGH:** And it looks like my clicker is not
2 working here. Can we move to the next slide, please?

3 (Demonstrative published.)

4 **MS. McCULLOUGH:** There we go.

5 **BY MS. McCULLOUGH:**

6 **Q.** How long have you been a professor or at Georgia Tech?

7 **A.** I just completed my 20th year.

8 **Q.** Twentieth year.

9 And how is Georgia Tech's engineering school regarded?

10 **A.** I believe the U.S. News ranking ranked our undergraduate
11 electrical engineering program as number two in the country,
12 and I think the graduate program is top five.

13 **Q.** Have you taught any engineering courses at Georgia Tech?

14 **A.** I do. I listed several of them down here. Courses on
15 RFID, radar, antennas, satellite communications, wireless
16 power transfer, microwave circuit design and a bunch of other
17 ones.

18 **Q.** Have any of these courses related to radio frequency
19 technology?

20 **A.** They do. All of them involve radio frequency technology.

21 **Q.** And how about circuit design? Have any of the courses
22 that you've taught involved circuit design?

23 **A.** Circuit design has been an element of all the courses as
24 well.

25 **Q.** How is circuit design an element of RF technology?

1 **A.** It's an important part of RF technology. You need to
2 track power through a circuit, signals, do matching, connect
3 high-speed RF interconnects, that sort of thing.

4 **Q.** And during your time at Georgia Tech, have you performed
5 any technical research related to RF circuit design?

6 **A.** I did. I listed several down here. We've done projects
7 on wireless power transfer, RFID systems, RFID backscatter,
8 the way that these devices communicate, some RF measurement
9 and engineering. For example, one of our projects, we
10 designed a CMOS RFID chip that had a low power encryption
11 engine in it for the National Security Administration.

12 **Q.** Have you supervised any graduate students who are pursuing
13 their own doctorates?

14 **A.** I have. I've graduated 14 Ph.D. students, and we have
15 seven in the pipeline.

16 **Q.** And have you ever done any RF circuit design work for
17 industry?

18 **A.** I have. We've had a number of industry sponsors over the
19 years. For example, we've done some tag and reader design
20 work for Intel, Honeywell. We even did a project where we
21 built a microwave RFID reader and energy harvesting tag
22 incensing system for NASA, and they actually launched that as
23 a CubeSat in 2019.

24 **Q.** Have you authored any engineering textbooks relating to RF
25 circuit design?

(Demonstrative published.)

THE WITNESS: I have. I've put some up here. The one on the left, "Space-Time Wireless Channels," that was published over 20 years ago. And that was about future wireless transmission technology like LTE, 5G.

And then the next book was a textbook on high-speed circuit design and transmission lines that we use in the curriculum at Georgia Tech. All the electrical engineering students are forced to go through this book.

And then a bunch of chapters from these books, a lot of them relate to -- there's one on general RF technology and then two on energy harvesting and wireless power transfer.

Q. And have you published your research in any technical papers?

A. I -- I have. We have a lot of papers. I just selected three here that are relevant to RFID technology. And we won best paper awards for these.

Q. And you noted best paper from the IEEE.

What is the IEEE, Dr. Durgin.

A. The IEEE is the Institute for Electrical and Electronics Engineers. I think it is the world's largest voluntary professional society, over half million members strong, an international organization that organizes conferences, promotes research and technical ideas in the technical community.

1 Q. And in addition to these recognitions from the IEEE, have
2 you received any other professional honors?

3 A. Yes, I've -- I've listed some here. For example, in 2020,
4 we won third place in the International Nokia Bell Labs prize
5 with an RFID-themed project. Twenty -- 2019, we got the
6 Clive Hohberger Technology Award. That's an innovator's award
7 in industry. Won the National Science Foundation Early
8 Investigator Award for an RFID project as well as the top
9 teaching award at the Georgia Institute of Technology in 2007.

10 (Demonstrative published.)

11 **BY MS. McCULLOUGH:**

12 Q. And in addition to your teaching and your research duties,
13 Dr. Durgin, are you a member of any professional
14 organizations?

15 A. I am. I've listed a bunch of them here.

16 (Demonstrative published.)

17 **THE WITNESS:** I obviously do a lot of volunteer work
18 for the IEEE. I'm currently serving as the president-elect on
19 the IEEE Council on RFID. That's a group within IEEE that has
20 about 20,000 members and affiliates that are interested in
21 RFID technology.

22 **BY MS. McCULLOUGH:**

23 Q. And, Dr. Durgin, we're going to be talk a lot about
24 patents today.

25 Do you have any patents yourself?

1 **A.** I do. I've listed six examples here that are related to
2 RF technology and RFID.

3 (Demonstrative published.)

4 **MS. McCULLOUGH:** Your Honor, Impinj offers
5 Dr. Gregory Durgin as an expert in the field of radio
6 frequency technology and circuit design.

7 **MR. HENDERSHOT:** No objection.

8 **THE COURT:** He's admitted.

9 **BY MS. McCULLOUGH:**

10 **Q.** Dr. Durgin, did you reach an opinion regarding whether
11 NXP's accused UCODE products infringe claims 1 and 15 of
12 Mr. Oliver's rectifier patent?

13 **A.** I did.

14 **Q.** What is that opinion?

15 **A.** I went through and studied, meticulously, Claim 1 and
16 Claim 15 of '597 patent and found that the UCODE 8 and be
17 UCODE 9 do infringe those claims.

18 **Q.** And, Dr. Durgin, the partners -- the parties have slightly
19 different ideas about what exact level of experience an
20 ordinary person working in the field of Mr. Oliver's
21 technology would have had at the time this patent was filed.

22 Are you aware of that disagreement?

23 **A.** I am.

24 **Q.** What generally is the nature of that disagreement?

25 **A.** I believe it's a -- a question of expertise between RF

1 technology versus circuit technology.

2 Q. And what technology do you understand the '597 patent to
3 relate to?

4 A. I -- believe it includes RF technology, which necessarily
5 involves some circuit technology as well.

6 Q. So do any of the opinions that you formed in this case and
7 will be discussing with the jury depend on whether the
8 accurate characterization of the technology is RF in -- in
9 particular or circuit design more generally?

10 A. My opinions don't change under either definition of a
11 person of ordinary skill in the art.

12 Q. Dr. Durgin, did you consider evidence in forming your
13 opinions in this case?

14 A. I did.

15 Q. What evidence did you consider?

16 A. So I looked at technical reports, the patent, the file
17 history. I looked at lots of schematics, lots of spec sheets,
18 data sheets, testimony from the case.

19 Q. And has NXP's technical expert, Dr. van der Weide,
20 provided a report in this case that discloses his opinions
21 about the '597 patent?

22 A. He has.

23 Q. And have you reviewed that report?

24 A. I did review it.

25 Q. All told, do you have a sense of about how many pages of

1 evidence you've reviewed in connection with forming your
2 opinions?

3 A. Oh, it's thousands and thousands of pages.

4 Q. And did analyzing all of those pages, all those schematics
5 and -- and portions of the file history, et cetera, did that
6 take you some time?

7 A. It did. It probably took about 400 hours.

8 Q. And have you been compensated for the time that you've
9 spent in connection with this case?

10 A. I have, at my standard rate.

11 Q. Does your compensation depend on you saying anything in
12 particular on the stand today?

13 A. Absolutely not.

14 Q. Does it depend on how this case might turn out?

15 A. It does not at all.

16 Q. Let's talk a little bit about the technology that's at
17 issue here, and we've heard from Mr. Oliver yesterday and
18 today about rectifiers generally and about his rectifier in
19 particular.

20 (Demonstrative published.)

21 **BY MS. McCULLOUGH:**

22 Q. Can you just briefly remind us what it means to be a
23 synchronous power rectifier?

24 A. Yes, that's right. This is a type of rectifier that
25 switched from the RF, and his invention is a way to perform

1 this conversion of RF power to DC power to drive the RFID chip
2 more efficiently.

3 Q. So what problem was Mr. Oliver addressing with his '597
4 patent?

5 A. So as I highlight here, out of the patent, in Exhibit 1,
6 the --

7 (Demonstrative published.)

8 THE WITNESS: Mr. Oliver states that the principal
9 problem in RFID is that the signals are so weak, it's very
10 difficult to extract power from them.

11 And his rectifier design is able to do that with more
12 sensitivity.

13 BY MS. McCULLOUGH:

14 Q. How did Mr. Oliver solve that problem?

15 A. So again, from the patent, I have a -- a scheme here -- or
16 an excerpt from the diagrams.

17 (Demonstrative published.)

18 THE WITNESS: This is basically a nice visual summary
19 of his invention. We've seen this before, so I won't dwell on
20 it, but it's an alternating stage of NMOS and PMOS transistors
21 with a certain connectivity of the RF inputs that we'll check
22 claim by claim off later in the presentation.

23 BY MS. McCULLOUGH:

24 Q. And what is it about the connectivity of these inputs that
25 was innovative about Mr. Oliver's design?

1 **A.** Yes, so the first thing is that this is a single
2 charge-accumulating path through the rectifier. And he's got
3 this dotted line here that breaks it into synchronous
4 elements. And a synchronous element in -- in the '597 are
5 pairs of transistors that switch at the same time. So they're
6 driven by the RF, and they turn on and off together as a unit.

7 **Q.** You mentioned both NMOS and PMOS transistors a minute ago.
8 Dr. Durgin, can you tell us the difference between an NMOS
9 and a PMOS transistor?

10 **A.** I can. The PMOS ones are the ones with the little dots on
11 it in this diagram. Those will turn on when the RF phase is
12 low.

13 (Demonstrative published.)

14 **THE WITNESS:** And the NMOS does the opposite. It
15 doesn't have a little dot on it and it turns on when that RF,
16 when its input is high.

17 **BY MS. MCCULLOUGH:**

18 **Q.** Would Mr. Oliver's rectifier design have worked just as
19 well if he'd used only one of those two types of transistors,
20 only NMOS or only PMOS?

21 **A.** No. It wouldn't have had the pulling power and the
22 switching characteristic that imparts a lot of the efficiency.

23 **Q.** And what about using both NMOS and PMOS transistors
24 creates that efficiency and increased power?

25 **A.** So the key is that both of these turn on and off together

1 and it's a strong on, a strong off. And the adjacent phases
2 of the gate and these other inputs down here (indicating) will
3 cause a strong push of RF through each synchronous element.
4 And that makes the device work more efficiently than many of
5 the prior art devices.

6 **THE COURT:** All right.

7 Let's go ahead and take our first break for the morning.

8 (The following proceedings were heard out of the presence
9 of the jury:)

10 **THE COURT:** All right.

11 The record will reflect the jury has left the courtroom.
12 Just a couple little housekeeping things.

13 And you can step down, that's fine.

14 I need designation times on the video unless all of that
15 goes to plaintiff, and I don't think it probably does.

16 Second, you're supposed to provide photos at the close of
17 every day. That has not yet been done.

18 Thirty and 32, I see -- I just didn't want to get into it.
19 I saw that 32 was a stipulated exhibit.

20 Is -- is there an objection to 30 or is that stipulated as
21 well?

22 **MR. AL-SALAM:** Was it on yesterday's list? I'm told
23 it was on yesterday's list.

24 **THE COURT:** Okay.

25 **MR. AL-SALAM:** Thirty and 32.

1 **THE COURT:** All right.

2 Then those -- 30 and 32 are then admitted.

3 (Trial Exhibits 30 and 32 received in evidence)

4 **THE COURT:** There was, in my pretrial order at
5 Docket 376, procedural stipulations that I need you to sign
6 and file or -- or file on the docket, right. Page 18 of 21 is
7 where you'll see it. Make sure to get those filed.

8 That's all the little stuff that I had for right now.

9 Yes?

10 **MR. AL-SALAM:** A picture of Dr. -- Dr. Diorio.

11 **THE COURT:** Okay. Thank you.

12 All right. We'll stand in recess until 10:20.

13 **MR. AL-SALAM:** Thank you.

14 (Recess taken at 10:02 A.M.; proceedings resumed at 10:18
15 A.M.)

16 (The following proceedings were heard out of the presence
17 of the jury:)

18 **THE COURT:** Okay. Can I -- Mr. Hendershot, I need --
19 I need to see the two of you at sidebar.

20 (Proceedings were heard at the sidebar; not reported.)

21 **THE COURT:** All right. Let's call them.

22 **THE CLERK:** Please rise for the jury.

23 (The following proceedings were heard in the presence of
24 the jury:)

25 **THE COURT:** You may be seated. We're back on the

1 record. The record will reflect that the jury is back with
2 us.

3 So I heard from Mr. Cuenco that you all were asking
4 questions about juror number 5. We learned this morning he
5 was not feeling well and just couldn't come in. We're trying
6 to get some more information. So once we do, if it is COVID
7 and not the flu or a cold or something like that, we'll let
8 you know. But, hopefully, he's fine.

9 But we just didn't -- given that this is a really short
10 trial, we didn't want to just have you all come back for extra
11 days next week, so -- or the week after 'cause it would have
12 gone into the following week. But we'll find out information
13 and let you know. Okay?

14 But I have no reason to -- at this point we don't know
15 anything, so let's just keep going. As soon as we know
16 something, we'll let you know.

17 You may proceed.

18 **MS. McCULLOUGH:** Thank you, Your Honor.

19 Can we publish Dr. Durgin's demonstratives again, please,
20 for the jury?

21 **THE COURT:** And Ms. McCullough, if you'll stand a
22 little bit closer to that mic.

23 **MS. McCULLOUGH:** Absolutely.

24 (Demonstrative published.)
25

1 **BY MS. McCULLOUGH:**

2 **Q.** So Dr. Durgin, what we haven't heard much about so far in
3 this case are the claims of Mr. Oliver's patent.

4 (Demonstrative published.)

5 **MS. McCULLOUGH:** If we could move to the next slide,
6 please, Amy.

7 (Demonstrative published.)

8 **BY MS. McCULLOUGH:**

9 **Q.** These are the boundaries of the invention like we heard
10 about in the judiciary video that was played at the beginning
11 of this case.

12 Do the claims of Mr. Oliver's patent generally track the
13 examples in the patent's figures?

14 **A.** They're -- they do. They are explained very well by the
15 figures in the specification.

16 **Q.** And Claim 1 recites a "power rectifier for an RFID tag
17 circuit."

18 Could you just walk us through what Claim 1 covers,
19 Dr. Durgin?

20 **A.** That's right. Using diagrams from the patent itself,
21 here's where the antenna couples into the rectifier at a
22 positive and negative RF phase.

23 **Q.** And which phase of that RF signal is each of these nodes
24 that you've circled receiving?

25 **A.** So this top one is the positive phase and the bottom one

1 is the negative phase.

2 Q. What does the claim next recite?

3 A. The next thing is a plurality of serially coupled stages.
4 So those are the yellow boxes that I've highlighted up at the
5 top.

6 Q. And I'll stop here for just a minute, Dr. Durgin.

7 Does the term "stage" mean something really specific in
8 engineering?

9 A. In general engineering, no. It -- it's a generic term
10 like stage, element, module, cell.

11 When we talk about stages with respect to this patent, I'm
12 being very consistent about using what the language and the --
13 what a person of ordinary skill in the art would interpret as
14 a stage from the description.

15 Q. So what does the patent say that a stage means?

16 A. A stage consists of these two (indicating) synchronous
17 elements.

18 Q. And so what does that first synchronous element include
19 according to Claim 1?

20 A. So if we look through Claim 1, the first synchronous
21 element, which is this green box, contains a first transistor
22 coupled through an intermediate node to a second transistor.
23 And that first transistor is connected to a first phase and a
24 second phase at -- it is connected to the gate at the second
25 transistor.

1 Q. And are these two transistors connected in series or in
2 parallel?

3 A. They are in series such that there's one path through the
4 device.

5 Q. And only one path through that device?

6 A. Only one path.

7 Q. We're not quite done with Claim 1. It then goes on to
8 recite a second synchronous element.

9 What does the second synchronous element of the claim
10 include?

11 (Demonstrative published.)

12 **THE WITNESS:** So the second synchronous element looks
13 very similar to the first one. We've got a third and a fourth
14 transistor here, coupled through another intermediate node.
15 And this time the first -- the third transistor is connected
16 to the second phase and the fourth transistor is connected to
17 the fourth phase -- or the first phase, excuse me.

18 **BY MS. MCCULLOUGH:**

19 Q. And how does the claim require these two synchronous
20 elements to be connected to each other?

21 A. They are connected in series at this point here.

22 Q. Now, the requirement in the claim about there being only a
23 single charge-accumulating path, what does that requirement
24 apply to?

25 A. That applies to synchronous elements. There can only be

1 one charge-accumulating path through a synchronous element.

2 Q. Does the claim say there can only be one
3 charge-accumulating path anywhere in the rectifier circuit?

4 A. No, it does not say that.

5 Q. So if there's an element, maybe out here (indicating),
6 would any --

7 MR. HENDERSHOT: Your Honor --

8 BY MS. McCULLOUGH:

9 Q. -- charge flowing through that element create a
10 charge-accumulating path within the context of this claim?

11 THE COURT: Okay. Hold on.

12 MR. HENDERSHOT: Your Honor, this is an opinion
13 that's not in his reports.

14 THE COURT: All right.

15 MS. McCULLOUGH: That's --

16 THE COURT: Response.

17 MS. McCULLOUGH: That's incorrect, Your Honor. This
18 entire case comes down to, for infringement of the '597
19 patent, whether there is only a single charge-accumulating
20 path within a synchronous element.

21 THE COURT: I have his report in the binder?

22 Do I have his report in the binder that you gave me?

23 MS. McCULLOUGH: You do have his report. It's
24 exhibit -- or it's at paragraph 210 --

25 THE COURT: Hold on.

1 **MS. McCULLOUGH:** -- in his opening report.

2 **THE COURT:** Which exhibit number?

3 **MS. McCULLOUGH:** It's not one of the exhibits in his
4 binder, but it was provided with the reports that Your Honor
5 was given for all the experts.

6 **THE COURT:** Where are the reports?

7 **MS. McCULLOUGH:** I can withdraw that question for
8 now, Your Honor, though, and move on, for time's sake.

9 **THE COURT:** Okay.

10 Go ahead. It's withdrawn.

11 **MS. McCULLOUGH:** Thank you, Your Honor.

12 **Q.** So, Dr. Durgin, let's talk about that word "accumulating"
13 for a moment as well.

14 Does Claim 1 say there can only be one charge carrying
15 path?

16 **A.** No, it does not.

17 **Q.** What is the difference between a charge-carrying path and
18 a charge-accumulating path?

19 **A.** So a person of ordinary skill in the art would understand
20 a charge-accumulating path in these devices would be the path
21 that is converting RF to DC and raising charge up to an output
22 voltage that would later drive the chip. But every path in
23 the circuit is potentially a current or charge-carrying path.

24 **Q.** And in the context of a rectifier circuit, do you
25 understand charge-accumulating paths to mean something more

1 than simply charge-carrying paths?

2 **A.** Yes, it means specifically to carry charge through this
3 main path that converts RF to DC power and ends up on the
4 output.

5 **Q.** Dr. Durgin, you've also analyzed Claim 15 of '597 patent
6 against the UCODE products.

7 How does Claim 15 compare to Claim 1?

8 **A.** It nearly identical in the elements that it requires.
9 There are two notable additions here. I've highlighted them
10 in yellow. There's a zeroth stage transistor that connects
11 ground and has its output connected to the first phase. And
12 there's a first phase connected that initial transistor.
13 Those -- that's the only element that isn't in Claim 1.

14 **Q.** What does Claim 15 say in particular about the
15 connectivity of the zeroth stage transistor?

16 **A.** So the zeroth stage transistor specifically is at the
17 front here. I highlighted it in red. And it's the first
18 transistor coupled to the output of the zeroth transistor --
19 the output terminal of the zeroth's transistor is coupled to
20 this first beginning of what would be the very first
21 synchronous element in the next charge pump stage.

22 **Q.** Dr. Durgin, were you here in the courtroom yesterday to
23 hear Mr. Oliver testify that Impinj uses his '597 patent
24 rectifier in the Monza R6?

25 **A.** I was here for that, yes.

1 Q. Are you familiar with the Monza R6 products?

2 A. I did. I studied the schematics and the spec sheets.

3 Q. Whose schematics and spec sheets did you study?

4 A. So I studied schematics that were provided by Impinj and I
5 also studied the teardown take came from NXP.

6 Q. Were you able to determine whether the Monza R6 does, in
7 fact, practice the invention of claims one and 15?

8 A. Yes. Monza R6 does practice those inventions.

9 Q. What does the charge pump cell of the Monza R6 look like?

10 (Demonstrative published.)

11 **THE WITNESS:** So here is an excerpt from Exhibit 13,
12 which is a schematic provided by Impinj. And it shows a unit
13 of the charge pump. These are connected together in series.
14 And I've drawn a highlight here on this purple path that
15 connects those green dots I just drew. That's the main
16 charge-accumulating path and we see the power switching
17 transistors here that are pumping as the charge moves up.
18 Those are those doors that we've been talking about.

19 **BY MS. McCULLOUGH:**

20 Q. What causes those two transistors to open and close to
21 turn on and off?

22 A. That would be its connections to the RF. So we see this P
23 feed and N feed -- excuse me. Yeah.

24 P and N feeding the gates of those transistors. So the RF
25 is switching them.

1 Q. And there is additional circuitry here (indicating) that
2 you did not highlight in your path. Looks like a number of
3 additional transistors and some capacitors.

4 Why did you not include that circuitry in the purple path
5 that you highlighted?

6 A. So all those transistors on the right-hand side of the
7 line that I just drew, those are bias circuitry. They're just
8 moving around little bits of current and applying voltages to
9 the gates to get this machine to run more efficiently. To
10 kind of nudge the switching behavior of the transistors into a
11 more efficient region.

12 Q. Is this bias circuitry synchronously controlled?

13 A. No, it's not switched in the way that the transistors are.

14 Q. Is this bias circuitry generating an additional
15 charge-accumulating path within the Monza R6 charge pump cell?

16 A. It is not. It's taking a very small amount of current and
17 circulating it generally in the wrong direction.

18 Q. Are you aware that NXP commissioned its own teardown of
19 the Monza R6 product?

20 A. Yes, I'm aware of that and have reviewed that teardown
21 schematic.

22 Q. And would a person of skill in the art looking at that
23 teardown have been able to understand how the rectifier of
24 Monza R6 works?

25 A. Yes. They would be able to see how the

1 charge-accumulating path works, the connectivity of the
2 transistors, the types of devices. And they'd also have a
3 really nice starting point for what bias circuitry would look
4 like.

5 **Q.** Dr. Durgin, I'd like to move now to your opinions
6 regarding infringement of the UCODE 8 and 9 products.

7 Do you recall Mr. Oliver testifying about the UCODE 8
8 teardown that Impinj ordered?

9 **A.** I did. I was -- I witnessed that testimony.

10 **Q.** And did you review that teardown in connection with
11 forming your opinions in the matter?

12 **A.** I did.

13 **Q.** Did the UCODE 8 teardown Mr. Oliver analyzed match NXP's
14 own internal schematics that you have reviewed?

15 **A.** I can confirm that it did.

16 **Q.** Dr. Durgin, in addition to UCODE 8, have you also reviewed
17 materials for UCODE 9 in this case?

18 **A.** I did.

19 **Q.** And you've included an undisputed fact from the jury's
20 binder here.

21 Are there meaningful differences between UCODE 8 and 9 for
22 purposes of infringement?

23 **A.** No. In terms of the rectifier, they're the same devices.
24 So any analysis that I apply to UCODE 8 will also apply to
25 UCODE 9. They're identical.

1 Q. And have you generally referred to one of these products
2 as representative for your testimony today?

3 A. That's right. To save space and time, I'm only going to
4 take excerpts from UCODE 8 schematics but they will apply to
5 the UCODE 9.

6 Q. Dr. Durgin, were you able to determine from NXP's
7 schematics how the UCODE's rectifier is structured?

8 A. Yes.

9 (Demonstrative published.)

10 THE WITNESS: Here's an example from their schematic.
11 This is a top-level diagram of their rectifier. And you can
12 see the RF inputs that would connect to an antenna and a
13 charge-accumulating path that will output to an output power
14 (indicating).

15 BY MS. McCULLOUGH:

16 Q. And you are referring to Exhibit 597 on the slide,
17 Dr. Durgin.

18 MS. McCULLOUGH: Your Honor, this is a stipulated
19 exhibit, and we would offer this into evidence.

20 THE COURT: It's admitted if it's stipulated.
21 Go ahead.

22 (Trial Exhibit 597 received in evidence)

23 BY MS. McCULLOUGH:

24 Q. Dr. Durgin, what are each of these cells that are -- are
25 shown on the schematic?

1 **A.** So each of these cells is basically a unit of repeating
2 circuitry. So inside the box, this one right here
3 (indicating) has exactly the same circuitry as the one here
4 and here and here (indicating) down the line. And they're all
5 connected in series, as you can see.

6 **THE COURT:** Okay. I don't have a number for this
7 exhibit. You didn't mention it.

8 **MS. McCULLOUGH:** This is Exhibit 597, Your Honor.

9 **THE COURT:** Oh, okay. I saw that and then I thought
10 the '597 patent.

11 **MS. McCULLOUGH:** It was a --

12 (Simultaneous colloquy.)

13 **MS. McCULLOUGH:** -- coincidence, I assure you, that
14 has caused confusion on our end as well.

15 **THE COURT:** Okay.

16 **BY MS. McCULLOUGH:**

17 **Q.** So Dr. Durgin, are -- are these connected in exactly the
18 same way throughout the UCODE rectifier circuit, these cells?

19 **A.** Yes, they're all connected in series.

20 **Q.** And what are the inputs on the top and bottom of each of
21 these cells?

22 **A.** Yes, these are the RF inputs. Here's one phase up here
23 and here's a second phase down here (indicating). And the
24 only difference is that the polarity of the connection, that
25 connection going into the box is flipped, so that every other

1 box is experiencing a flip of the RF connections. So they're
2 different.

3 Q. And what is this VDDA_Sense output at the far right of the
4 circuit?

5 A. So that would be the main power supply to the entire RFID
6 chip. That's basically what we're pumping up all that charge
7 to in order to drive the rest of the circuit of the little IC
8 that gets put on the RFID tag.

9 Q. What circuitry is inside each one of these charge pump
10 cells?

11 A. Okay. So here's an excerpt, and hopefully the contrast is
12 high enough for you to see on the screen. I've highlighted
13 the paths that are important. This purple path is that main
14 charge-accumulating path. It goes through switching
15 transistors and on to the next segment or cell.

16 Q. And these elements that you called switching transistors,
17 what are these elements doing?

18 A. These are turning on and off coordinating that flow of
19 charge through the path.

20 Q. And what is causing those switching transistors to turn on
21 and off?

22 A. We can see that at their gates, they're connected to an RF
23 phase. Both gates in this case.

24 Q. And I see other circuitry, some transistors and some
25 capacitors that are not along that charge-accumulating path

1 you've highlighted.

2 Why have you not highlighted those other portions of the
3 circuit?

4 **A.** So all of those other transistors are what we would call
5 bias circuitry. Again, they're just using little bits of
6 current, usually flowing in the opposite direction to the
7 charge-accumulating path. And you can see that they're
8 connected also, or at least coupled to the gates of these
9 devices. And they're meant to make the machine run more
10 smoothly, to kind of nudge those gates into their most
11 efficient switching region.

12 **Q.** Okay. And a moment ago, Dr. Durgin, you noted that each
13 of these individual cells is connected together in series.

14 What does that series connection actually look like at the
15 transistor level?

16 (Demonstrative published.)

17 **THE WITNESS:** Okay. So here, I've taken and cut and
18 pasted the two rectangular boxes of circuitry right next to
19 each other. And you can see this is only two boxes. The
20 screen's not wide enough to do it for the entire charge pump.
21 But when these are connected together, there's one
22 charge-accumulating path that I've highlighted in the purple
23 again (indicating), and it goes by these four switching
24 transistors.

1 **BY MS. MCCULLOUGH:**

2 **Q.** So is this the copy and repeat that Mr. Oliver was talking
3 about?

4 **A.** That's right.

5 **Q.** And how do the transistors in neighboring charge pump
6 cells work together?

7 **A.** Okay. So the way this works is I've drawn up here at the
8 top level, up here (indicating), a green box. And that's what
9 the '597 refers to as a charge pump stage.

10 And it's divided into two sections, a synchronous element
11 one, synchronous element two. So that's why I have that
12 dotted line down there. And if you blow up the circuitry of
13 the two boxes, we see these rectangles that correspond to
14 those synchronous elements. So we're looking at one --
15 synchronous element number one and then the first part of
16 synchronous element number two.

17 **Q.** And so like you mentioned, Dr. Durgin, this -- this copy
18 and paste one time takes up basically your whole slide.

19 Does is this sequence that you've shown us repeat itself
20 over the course of the entire UCODE rectifier?

21 **A.** It does. You can see here, here and here (indicating),
22 those are two additional stages that are coupled in series to
23 make one large charge-accumulating path.

24 **Q.** So inside each of these yellow squares, what is inside
25 each of those?

1 **A.** Each yellow square has two synchronous elements that look
2 exactly like the green squares on the left.

3 **Q.** And in NXP's opening statement, I think there was a
4 suggestion that maybe you were doing something tricky by
5 highlighting the elements in this way.

6 Why have you chosen to denote these different yellow
7 boxes?

8 **A.** So we start at this point over here because that's where
9 the unit of repetition in the NXP schematic happens to start.

10 **Q.** So now that we've looked at the connectivity, what the
11 circuitry inside UCODE rectifier's looks like, can you walk us
12 through how the circuit actually accumulates the charge to
13 generate that rectified DC voltage at the final output?

14 **A.** Yes, I can. So as you can see up here, in the top part,
15 there's that first connection to ground (indicating), so there
16 should be a outside-the-box ground connection. Charge is
17 pulled up through this first transistor and deposited on this
18 very large capacitor here (indicating). And then while it's
19 doing that -- while this transistor is on, this synchronous
20 stage, which is here (indicating) and here (indicating), those
21 are the two synchronous switching transistors, those are off.

22 **Q.** And, Dr. Durgin, what causes these different transistors
23 to be on or off?

24 **A.** So there's this RF waveform that's amazingly beating,
25 going up and down 1 billion times per second, basically. And

1 so we have a -- a high phase and a low phase, a sort o the
2 phase one and a phase two.

3 So when the phase -- on one of these upswings, this
4 synchronous element is off. Then in time, we get to the --
5 the downward phase. And what happens is that the adjacent
6 synchronous element over here switches off and the first
7 transistor over here switches off. And now charge -- so if I
8 represent that with little pluses -- is drug across the
9 pathway and placed up on to this capacitor (indicating).

10 Then the synchronous element shuts off because we've gone
11 back to the next alternating phase. And then the -- the door
12 to the next synchronous element is open. Both switches are --
13 are opened in tandem and the charge flows along the
14 charge-accumulating path.

15 **Q.** And what happens after the charge exits that next portion
16 of the circuit that you've highlighted in green?

17 **A.** So it continues on to the second synchronous element, and
18 then it repeats. You're at the next stage, the synchronous
19 element of the first -- first synchronous element of the
20 second stage, then second synchronous element of the second
21 stage, and so forth and so on.

22 **Q.** So in UCODE, what is the main path along which charge
23 accumulates for purposes of generating that rectified DC
24 output?

25 **A.** It's this purple one that I've highlighted.

1 Q. And how does UCODE's rectifier compare to the Monza R6
2 rectifier that we talked about a few minutes ago?

3 A. It's using exactly the same transistors, sequence, and the
4 connectivity sequence of RF-switched phases.

5 Q. NXP provided an overview in its opening statement of how
6 UCODE's charge pump cells are connected together.

7 Dr. Durgin, how did NXP's representation of those
8 connected UCODE cells differ from what you just walked through
9 with the jury?

10 A. So if you ignore the blue and red annotations, everything
11 about that is correct. In terms of the connectivity, we see
12 the different units of repeating cells, and then the
13 boundaries of the synchronous elements.

14 Q. Does NXP agree with you that that purple path you drew is
15 the main path where the charge for the rectified voltage
16 accumulates?

17 A. They do, as you might have picked up from the video when
18 Mr. Amtmann was testifying. I've reproduced a quote here from
19 that video.

20 (Demonstrative published.)

21 **THE WITNESS:** He states there's "one main path"
22 flowing through NP3. That's one of power switching
23 transistors.

24 **BY MS. MCCULLOUGH:**

25 Q. Okay. Let's turn back to the asserted claims of

1 Mr. Oliver's rectifier patent.

2 Dr. Durgin, did you go through every part of Claim 1 and
3 determine that every part of this claim is present in the
4 UCODE products?

5 **A.** I did.

6 **Q.** And I'll have you walk through all of those in just one
7 moment, but you've highlighted these last clauses in the claim
8 about there being only a single charge-accumulating path
9 within each synchronous element.

10 Why did you highlight those clauses?

11 **A.** So the ones that I've highlighted in yellow in this slide,
12 it's the opinion of the NXP expert, Dr. van der Weide, that --
13 he's opined that these are the only elements that he contends
14 are missing from the practice of the Claim 1 of the '597
15 patent.

16 **Q.** And do you agree that the UCODE products are missing these
17 elements?

18 **A.** I disagree. There's only one charge-accumulating path.

19 **Q.** And did you also go through every part of Claim 15 and
20 determine that each part of that claim is present within the
21 UCODE products?

22 **A.** I did. And, again, I've highlighted the one contention
23 that NXP states they do not infringe. They claim that this
24 "no charge-accumulating path other than the main one" is not
25 met.

1 Q. So we start at the beginning.

2 The first part of the Claim 1 recites a "power rectifier
3 for an RFID tag circuit."

4 Are the UCODE products RFID tag circuits?

5 A. They are. In fact, I put an excerpt here for Exhibit 18.
6 They're clearly sold as ICs for RFID-tagging applications.
7 You can see the highlighting in this data sheet from NXP on
8 the product.

9 MS. McCULLOUGH: And, Your Honor, Exhibit 18 is a
10 stipulated Exhibit. We would offer that into evidence.

11 THE COURT: No objection?

12 MR. HENDERSHOT: No objection, Your Honor.

13 THE COURT: Eighteen is admitted.

14 (Trial Exhibit 18 received in evidence)

15 (Exhibit published.)

16 BY MS. McCULLOUGH:

17 Q. And do the UCODE products have a power rectifier?

18 A. They do. Let me highlight it here. If you can't see the
19 gray, I put a highlight on this rectenna module or rectifier
20 module. And it says very clearly that the RF field is
21 rectified to produce a smooth DC voltage on the spec sheet.

22 Q. So do the UCODE products satisfy this first part of the
23 Claim 1?

24 A. They do.

25 Q. Claim 1 goes on to require first and second antenna input

1 nodes.

2 Do the UCODE products include these nodes?

3 **A.** They do. I've highlighted in yellow two RF pads that
4 connect to the antenna, and it says that this antenna is
5 attached to the chip.

6 **Q.** And those two pads, their labels are RF1 and RF2.

7 What do those labels refer?

8 **A.** RF1 is basically phase one. RF2 is phase two.

9 **Q.** So do the UCODE products include these first and second
10 antenna input nodes?

11 **A.** They do.

12 **Q.** Next Claim 1, recites a "plurality of serially coupled
13 stages."

14 Do the UCODE products include these stages?

15 **A.** They do. I've highlighted them again. Here's the
16 schematic. The stages are these yellow boxes. And there's
17 more than one of them.

18 **Q.** And how are those stages connected in UCODE?

19 **A.** So as you can see, they're connected in series.

20 **Q.** And you started that first stage in the middle of the
21 first UCODE charge pump circuit.

22 Why did you do that?

23 **A.** Again, that's where the pattern of the '597 usage begins,
24 the alternating pattern of -- and transistors and antenna
25 inputs with the phases.

1 Q. And within each of these yellow boxes, what differences
2 does the circuitry between -- that's included within Box 1
3 versus Box 2?

4 A. They're identical. These are cut-and-paste circuits.

5 Q. That first part of the very first cell, right here
6 (indicating) --

7 A. Um-hmm.

8 Q. -- where the input is -- is tied to something, what is
9 the input tied to there, Dr. Durgin?

10 A. So that's tied to a ground at the arrow I just put up
11 there.

12 Q. And does that specific part of the circuit repeat itself
13 as well?

14 A. No, it does not. The very first transistor that we'll
15 trace through there is connected to ground.

16 Q. So do the UCODE products include this "plurality of
17 serially coupled stages"?

18 A. They do.

19 (Demonstrative published.)

20 **BY MS. MCCULLOUGH:**

21 Q. Do the UCODE products include a first synchronous element?

22 A. They do. I've gone ahead and put this dotted green box.
23 We're going to kind of use that as our magnifying glass to
24 look at that section of the circuitry.

25 What you see in the larger box here that this is the first

1 synchronous element. And here's the beginning, and here's the
2 end (indicating).

3 Q. And what is that first beginning of the first synchronous
4 element coupled to receive?

5 A. That's coupled to receive RF through a capacitor.

6 Q. Why is this a synchronous element in your opinion,
7 Dr. Durgin?

8 A. Well, just as the '597 says, these are -- these two
9 transistors that constitute the switching power of the charge
10 accumulation path, they are synchronous. They are switching
11 on and off at the same time, driven at their gates by the RF
12 signal.

13 Q. And again, we see these other transistors and a few
14 capacitors that are not highlighted in that green path.

15 Why have you not included those other circuit components
16 as a synchronous element?

17 A. They're not power switching transistors along the main
18 accumulating path.

19 Q. Are those other components synchronous?

20 A. No, they are not.

21 Q. So do the UCODE products include a first synchronous
22 element?

23 A. They do.

24 Q. The claim goes on to recite a few things that the first
25 synchronous element must include.

1 Dr. Durgin, how are these elements satisfied by UCODE?

2 **A.** So I've highlighted these next elements in purple.

3 There's a first transistor that we encounter. It's coupled to
4 the first phase of the RF. You see that's RFP. Then as you
5 go down the line over to here, you encounter an intermediate
6 node. Then over to the next transistor, this is transistor
7 number 2, that gate is driven by the opposite phase, the
8 second phase, and then towards to -- to the output.

9 **Q.** And I believe that you just said the gate of that second
10 transistor is coupled to received the second phase.

11 Where is the first phase connected to for that first
12 transistor?

13 **A.** So this first phase of the transistor is connected to the
14 first phase coming in from the antenna. And the second one is
15 connected to the alternate phase coming in from the other end
16 of the antenna.

17 **Q.** So do the UCODE products include these first and second
18 transistors connected as required?

19 **A.** They do.

20 **Q.** Claim 1 then says there is only a single
21 charge-accumulating path within that first synchronous
22 element.

23 Is this limitation satisfied by UCODE?

24 **A.** It is. That purple path is the only charge-accumulating
25 path in the segment of the rectifier.

1 Q. And can you trace that single charge-accumulating path for
2 the jury, Dr. Durgin?

3 A. I sure can (indicating). Right through there.

4 Q. So this is the element that Dr. van der Weide has said is
5 missing from UCODE; is that correct?

6 A. Correct.

7 Q. And is it missing?

8 A. It is not.

9 Q. Claim 1 then goes on to recite the second synchronous
10 element.

11 Does UCODE include the second synchronous element of
12 Claim 1?

13 A. It did. So now you can see we've moved the box over, and
14 I've basically put this box right up against the edges of the
15 last box. So we're not missing any circuitry or doing
16 anything under handed here.

17 Let's go ahead and start the second synchronous element,
18 and here's the end over here as the claim says.

19 Q. And what phase of the RF signal is that second synchronous
20 element receiving?

21 A. So this is receiving this RFP from the antenna. This is
22 coupled to the first phase of the RF.

23 Q. So does UCODE include the second synchronous element?

24 A. It does.

25 Q. The claim then goes on to recite what that second

1 synchronous element includes.

2 Does UCODE include these required components?

3 **A.** It does. We can see there's a third transistor on the
4 path. That third transistor is connected to the second phase,
5 RFN this time, and the path continues on to get to a fourth
6 transistor, which then goes to the output. That fourth
7 transistor is connected to the first phase as those claim
8 elements require.

9 **Q.** And where exactly are those third and fourth transistors
10 coupled to the respective phases of the RF signal?

11 **A.** That's at their gate, which controls the switching of a
12 MOSFET transistor.

13 **Q.** So does UCODE include these required component of the
14 second synchronous element?

15 **A.** It does.

16 **Q.** And does UCODE include only a single charge-accumulating
17 path in that second element?

18 **A.** It does not have a second charge-accumulating path. This
19 purple one that I've highlighted and reemphasized in green is
20 the only charge-accumulating path through the circuitry.

21 **Q.** So does UCODE satisfy that element as well?

22 **A.** It does.

23 **Q.** And finally, Claim 1 recites that "the second beginning of
24 the second synchronous element is connected to the ending of
25 first synchronous element."

1 Are the synchronous elements in UCODE connected in this
2 way?

3 **A.** They are. You can see that junction is right there, and
4 they're clearly connected together at the end of the first and
5 the beginning of the second.

6 **Q.** So, Dr. Durgin, have we missed any parts of the Claim 1 in
7 what you just walked through with the jury?

8 **A.** No. I believe we've got every single one of them.

9 **Q.** And do the UCODE products include every single part of
10 Claim 1?

11 **A.** They do.

12 **Q.** Let's look at Claim 15.

13 Do the UCODE products include that zeroth stage transistor
14 that Claim 15 recites?

15 **A.** They do.

16 Let's go ahead and look at this section right here. This
17 butts up against the first charge pump stage, and it -- its
18 first synchronous element.

19 There's a transistor just outside there (indicating).
20 It's connected to ground, and its output couples into the
21 first synchronous element as the claims require. That is the
22 zeroth stage transistor.

23 **Q.** And for the remaining elements of Claim 15, how do your
24 opinions on infringement differ from the ones that you just
25 gave us for Claim 1?

1 **A.** They're identical. All the other claims are met as
2 well -- or all the other elements of the claim.

3 **Q.** So do the UCODE 8 and 9 products include every single part
4 of Claim 15 as well?

5 **A.** They do.

6 **Q.** Dr. Durgin, you mentioned that you had reviewed some
7 reports that NXP's expert has provided in this case; is that
8 right?

9 **A.** I have.

10 **Q.** Do you have an understanding of what his basis is for
11 contending that there is a second charge-accumulating path in
12 UCODE?

13 **A.** I've seen the opinion, and Dr. van der Weide outlines a
14 second charge-accumulating path, which is this red dotted line
15 through the same circuit segment that we've reviewed
16 previously.

17 **Q.** These annotations here, these are provided by
18 Dr. van der Weide?

19 **A.** They are.

20 **Q.** This blue path, how does that correspond to what you've
21 talked about earlier today?

22 **A.** So that is clearly the main charge-accumulating path that
23 we've been talking about. And it goes through those power
24 switching transistors M1 and M2.

25 **Q.** And these two transistors at the bottom of the circuit, it

1 looks like he's annotated these as being an M3 and M4
2 transistor.

3 What are those two transistors doing?

4 **A.** So those are diode-connected transistors. And you can see
5 there's a whole bunch of diode-connected transistors all
6 through here. These are part of the biasing network.

7 **THE COURT:** Hold on.

8 **MR. HENDERSHOT:** Your Honor, I object to this
9 diode-connected transistors about these two. It's not in his
10 report.

11 **MS. McCULLOUGH:** Your Honor, he was deposed on this
12 extensively, and it is in rebuttal to Dr. van der Weide's
13 opinions that his report did not have a chance to cover.

14 **THE COURT:** Okay. Well, then we'll get it in
15 rebuttal.

16 **BY MS. McCULLOUGH:**

17 **Q.** Thank you, Dr. Durgin.

18 Does NXP agree with you that those bottom transistors are
19 part of the bias circuitry?

20 **A.** They do. Here's some testimony from Mr. Amtmann regarding
21 the biasing network, and he describes this as biasing. And
22 its main purpose is to bias the gates of the switching
23 transistors.

24 **Q.** And do you agree with Mr. Amtmann that that is the purpose
25 of these lower transistors?

1 **A.** Yes, he's correct.

2 **Q.** And Mr. Amtmann referred to these transistors as providing
3 a leakage path.

4 Do you agree with that characterization?

5 **A.** They do in the sense that it's a very small trickle of
6 current that's used to bias the devices. It's flowing
7 opposite the direction of the charge-accumulating path, and
8 it's not going from stage to stage.

9 **Q.** But these biasing transistors, are those part of UCODE's
10 main path for generating the rectified voltage?

11 **A.** They are not.

12 **Q.** Now, you've also cited some testimony that he just heard
13 from Mr. Amtmann about these transistors being diode
14 transistors.

15 What does it mean for a transistor to be a diode-connected
16 transistor?

17 **THE COURT:** Okay. I have another objection.

18 **MR. HENDERSHOT:** The same objection I raised earlier
19 with respect to his report and these transistors here being
20 diodes.

21 **THE COURT:** So you saw these exhibit -- these slides
22 in advance.

23 **MS. McCULLOUGH:** And there were no objections,
24 Your Honor.

25 **THE COURT:** There were no objections. So why are

1 there objections now?

2 **MR. HENDERSHOT:** It's -- it's to the question asked
3 about it, Your Honor. That he's talking about this being in a
4 diode manner. I didn't know what they were going to ask him
5 about this.

6 **THE COURT:** If -- if you were put on notice -- give
7 me a paragraph number in terms of -- or is this a rebuttal
8 issue, too?

9 **MS. McCULLOUGH:** This is -- in paragraph 210 of his
10 expert report, he identifies the understanding that this is
11 going to be the argument that Dr. van der Weide or NXP is
12 raising.

13 **THE COURT:** So it's a rebuttal argument again or no?

14 **MS. McCULLOUGH:** It will be a rebuttal argument, but
15 it's also an affirmative characterization of how the UCODE
16 products work.

17 **THE COURT:** All right. Hold on just a minute.

18 **MR. HENDERSHOT:** And, Your Honor, upon review --

19 **THE COURT:** Stop.

20 **MR. HENDERSHOT:** Yes, Your Honor.

21 (Pause in the proceedings.)

22 **THE COURT:** Okay. 210 doesn't refer to this
23 particular diagram, and it doesn't refer to anything in -- at
24 least explicitly with respect to diodes. Or I'm not seeing it
25 quickly.

1 **MS. McCULLOUGH:** If you look, Your Honor, at the
2 prior, it's a few pages back, Page 106.

3 **THE COURT:** Well, you told me 210. So what
4 paragraph?

5 **MS. McCULLOUGH:** It is in connection with 209, I
6 suppose. But it's Page 106, given how many diagrams there
7 are. So this is the same underlying exhibit, the same
8 circuit. It has different annotations, but the parties are
9 discussing the same circuitry.

10 (Pause in the proceedings.)

11 **THE COURT:** Okay. So in this, you're talking
12 about --

13 **THE WITNESS:** That's correct.

14 **THE COURT:** All right. So I don't see a reference
15 here, and I -- I think your report is -- it's pretty big. So
16 can you answer it without -- without talking about diodes just
17 in terms of leakage or not?

18 **MS. McCULLOUGH:** Maybe I can ask a better question,
19 Your Honor.

20 **THE COURT:** All right. Let's try to do that;
21 otherwise, this may take too long.

22 **BY MS. McCULLOUGH:**

23 **Q.** Dr. Durgin, given the connectivity of transistor M3, where
24 does the leakage current actually flow within UCODE?

25 **A.** When the RF is on in this circuit, the leakage will be a

1 small amount of current in the opposite direction that
2 Professor van der Weide has shown in his report.

3 Q. So the current is -- is not actually flowing down? It's
4 flowing up?

5 A. That's correct.

6 Q. One more question for you about that transistor M3 right
7 there, Dr. Durgin.

8 Is that transistor being switched by a control signal?

9 A. No. In fact, there's nothing feeding its gate except that
10 it's been tied to its drain. So normally, a transistor has a
11 gate, which controls the switching between source and drain.
12 In these types of transistors, which are very different from
13 the ones above it, that are switching the power, the gate is
14 tied to the drain to give it a different characteristic more
15 like a valve.

16 Q. So is this transistor behaving synchronously?

17 A. No, it's not being switched by the RF.

18 Q. So this transistor part of the synchronous element?

19 A. It is not.

20 Q. And is charge --

21 MR. HENDERSHOT: Your Honor --

22 THE COURT: All right.

23 MR. HENDERSHOT: -- the synchronous point about this
24 transistor is not in his report. I object to the last two --
25 two responses and questions.

1 **MS. McCULLOUGH:** Your Honor, the charge-accumulating
2 path is recited as being within each synchronous element. I
3 don't understand the objection.

4 **MR. HENDERSHOT:** Your Honor, he testified that these
5 are not operating synchronously. It not in his report.

6 **MS. McCULLOUGH:** And again, Your Honor -- the issue
7 here --

8 **THE COURT:** All right. Members of the jury, we're
9 going to have you take just a quick little break. Stretch
10 your legs. If you'll go into the jury room.

11 (The following proceedings were heard out of the presence
12 of the jury:)

13 **THE COURT:** Okay. Time is ticking. Have a seat.

14 **THE CLERK:** Please be seated.

15 **MR. HENDERSHOT:** He offered an opinion that M3 and M4
16 are not operating synchronously just now. I think it responds
17 to a question.

18 **THE COURT:** Right.

19 **MR. HENDERSHOT:** I don't think him saying those do
20 not operate synchronously is in his report.

21 **THE COURT:** All right. Where is it in the report?

22 **MS. McCULLOUGH:** Your Honor, this is -- paragraph 210
23 identifies his expectation --

24 **THE COURT:** But 210 doesn't say anything about M3 or
25 M4.

1 **MS. McCULLOUGH:** This is an opening report. There
2 was to rebuttal report. He was deposed extensively on this
3 issue.

4 **THE COURT:** And did he say that during his
5 deposition?

6 **MS. McCULLOUGH:** He did, and we can get that for you.
7 If you would prefer --

8 (Simultaneous colloquy.)

9 **THE COURT:** You better get it quickly. I need his
10 deposition. Where is it? It should have been given to me
11 already.

12 Are you using his deposition in cross-examination?

13 **MR. HENDERSHOT:** I will. I can get you a copy right
14 now if you'd like it.

15 **THE COURT:** Yes, please.

16 **MS. McCULLOUGH:** Your Honor should have the
17 deposition transcripts for all witnesses.

18 **THE COURT:** So I asked you all to meet with my clerk
19 in advance every morning and tell him which ones to grab. If
20 you're not doing that, you should be.

21 All right. What page?

22 **MS. McCULLOUGH:** So, Your Honor, there are a few
23 pages here that actually apply to objections that I believe we
24 received. If you look at Page 69 of the transcript, this is
25 where Dr. Durgin is speaking about these transistors being

1 bias and -- bias circuitry and diode connected. I believe
2 that was the basis for one of counsel's objections a moment
3 ago.

4 **THE COURT:** Right. All right. Let me just read 69.
5 Hold on.

6 (Pause in the proceedings.)

7 **THE COURT:** Okay. So he references M1 and M2. He
8 references MN1, 8, 9 and 16. He doesn't reference 3.

9 **MS. McCULLOUGH:** Also, these are -- if you look at
10 the underlying schematic -- and I don't think that we can see
11 it here because of size. That is the -- the labeling that
12 he's talking about for MN1, MN8, 9, 16.

13 **THE COURT:** Those are all under M3?

14 **MS. McCULLOUGH:** Those are the other -- all of the
15 diode-connected transistors in the circuit besides M1 and M2.

16 **MR. HENDERSHOT:** Your Honor --

17 **THE COURT:** Hold on.

18 Okay. I still don't see in here where he opines that it's
19 not operating synchronistically.

20 **MS. McCULLOUGH:** He is explaining what it means to be
21 a diode-connected transistor. A diode does not have a switch.

22 **THE COURT:** A response?

23 **MR. HENDERSHOT:** If you look at the question that
24 he's asked on that page at the top of Page 49, he says, "Does
25 the charge flow in the UCODE charge pump stage from an input

1 on the left, through M3 and M4 on the document on the
2 screen" -- it's referring to the same diagram -- "to an output
3 on the right."

4 He then goes on to talk about other components other than
5 M3 and M4 that are in the question.

6 **THE COURT:** Did your expert read this?

7 **MR. HENDERSHOT:** I believe he has.

8 **THE COURT:** Okay. So do you disagree with
9 Ms. McCullough's statement that -- about what he was
10 explaining from a technical point of view? Because if so,
11 then what she's saying is, by definition, it's not
12 synchronistic.

13 **MR. HENDERSHOT:** I'm not sure I follow. I don't
14 think he's testifying here in this answer that counsel's
15 pointed to about whether or not this is synchronous or not.
16 There's a question asked, does charge flow through there.
17 There's nothing in that question about it being synchronous.

18 **THE COURT:** She just told me that -- repeat it again.

19 **MS. McCULLOUGH:** I'm not going to do my exact
20 question justice, Your Honor, but the point is diode-connected
21 transistors do not have a switch.

22 **THE COURT:** Okay.

23 **MS. McCULLOUGH:** That is the point.

24 **THE COURT:** And therefore, they're not synchronistic?

25 **MS. McCULLOUGH:** Correct.

1 **THE COURT:** Okay.

2 **MR. HENDERSHOT:** I --

3 **THE COURT:** Are you disputing the accuracy of the
4 statement?

5 **MR. HENDERSHOT:** I dispute whether that transistor
6 can be synchronous or not. I believe it is synchronous. I
7 don't know about a diode and a switch, standing here right
8 now, and whether that is technically correct or whether that
9 makes it nonsynchronous. I don't think it makes it
10 nonsynchronous.

11 **MS. McCULLOUGH:** Your Honor, this whole passage of
12 Dr. Durgin's deposition is talking about what this circuitry
13 is doing, what the bias circuitry is doing. That is the
14 subject of this examination.

15 **THE COURT:** So you've got a lawyer behind you shaking
16 his head vociferously that you're not accurate.

17 **MR. HENDERSHOT:** I hope it's not at me.

18 **THE COURT:** It's not you.

19 **MR. HENDERSHOT:** Okay.

20 **THE COURT:** It's behind you. So this is a rebuttal
21 testimony as well.

22 **MS. McCULLOUGH:** And we can wait for rebuttal, Your
23 Honor, if that would solve this objection.

24 **THE COURT:** That probably would. So we'll keep
25 going. I'll decide whose time I'm assessing.

1 **MS. McCULLOUGH:** Thank you, Your Honor.

2 **MR. HENDERSHOT:** Thank you, Your Honor.

3 **THE COURT:** Let's call them in.

4 (Pause in the proceedings.)

5 **THE COURT:** It would be helpful for me -- by the way,
6 who is doing van der Weide's cross?

7 **MS. McCULLOUGH:** I will be, Your Honor.

8 **THE COURT:** Okay.

9 Make sure to lay the foundation for this question.

10 **MS. McCULLOUGH:** Thank you, Your Honor.

11 (The following proceedings were heard in the presence of
12 the jury:)

13 **THE COURT:** Okay.

14 Hope you enjoyed your stretch.

15 You may be seated.

16 You may resume.

17 **MS. McCULLOUGH:** Thank you.

18 **BY MS. McCULLOUGH**

19 **Q.** Dr. Durgin, a moment ago we were talking about portions of
20 bias circuitry in UCODE.

21 **A.** That's correct.

22 **Q.** Does Mr. Oliver's rectifier patent teach that bias
23 circuitry could still be used with his invention?

24 **A.** Yes, I've highlighted a few sections from the patent that
25 speak to bias circuitry and its role in rectifier circuits.

1 So for example, he notes that the gate in prior art
2 references are connected to bias circuitry, which he doesn't
3 show because it's outside the scope of what he's claiming in
4 the invention. And again, here are some labels talking about
5 the prior art from the '597 patent that says bias circuitry
6 can be used on the gates (indicating), but they're not part of
7 the main charge-accumulating path that he's talking about.

8 **Q.** Was bias circuitry known in the prior art before
9 Mr. Oliver filed his patent?

10 **A.** It was. As the -- the '597 demonstrates in this diagram.

11 **Q.** And in your experience, Dr. Durgin, how widely was bias
12 circuitry used in rectifier circuits?

13 **A.** It's a common part of the every rectifier circuit,
14 especially at these lower power levels.

15 **Q.** And was there bias circuitry in Monza R6?

16 **A.** There was. You can see over here on the right of the
17 diagram (indicating) all of these are similarly connected
18 transistors that resemble the network attached to the UCODE
19 rectifier.

20 **Q.** So does the presence of bias circuitry in the UCODE
21 rectifier circuit affect NXP's infringement of Claims 1 and
22 15?

23 **A.** It does not.

24 **MS. MCCULLOUGH:** Could we move to Slide 47, please.

25 (Demonstrative published.)

1 **BY MS. McCULLOUGH:**

2 **Q.** Dr. Durgin, what is the single charge-accumulating path in
3 UCODE?

4 **A.** Well, as I note from Mr. Amtmann's testimony and my own
5 analysis, we agree this is the one main path through the
6 device take accumulates charge to make a DC power supply.

7 **Q.** And given that consensus and your analysis of NXP's own
8 internal schematics for UCODE, what conclusions did you reach
9 regarding the UCODE 8 and 9 products?

10 **A.** I found that the UCODE 8 and 9 products practice entirely
11 Claim 1 and Claim 15 of the '597 patent.

12 **MS. McCULLOUGH:** Thank you, Dr. Durgin. I'll pass
13 the witness at this time.

14 **THE COURT:** All right.

15 Cross?

16 **MR. HENDERSHOT:** Can I see your Slide 47?

17 **CROSS-EXAMINATION**

18 **BY MR. HENDERSHOT:**

19 **Q.** Good afternoon.

20 **A.** Good afternoon.

21 **Q.** She just asked you about consensus between Mr. Amtmann and
22 you about a "one main path," correct?

23 **A.** That's correct. She asked a question about what I thought
24 was the main charge-accumulating path, and it's consistent
25 with Mr. Amtmann's testimony.

1 Q. No. She asked you if he agreed with you that it was the
2 only path, and you said yes. You guys did not read this full
3 response when you went through this slide two or three times.

4 He says "one main path," correct, in the part you read?

5 A. He says, this is the one main path for charge
6 accumulation.

7 Q. No. He says "this one main path," not this is the one
8 main path, correct?

9 A. He describes it as this one main path. It's a main path.

10 Q. Didn't say only path?

11 A. He called it the one main path or main path.

12 Q. Did he say "only" sir; yes or no?

13 A. I don't see the word "only" in the answer.

14 Q. I didn't either.

15 I did see some words that followed where he talks about
16 another path, doesn't he?

17 A. Oh, would you like to highlight the words on the -- that
18 you're talking about?

19 Q. Surprised they weren't earlier. It's not my slide, and --

20 (Clarification requested by the Certified Shorthand
21 Reporter.)

22 MR. HENDERSHOT: And he says, "There's a second
23 leakage part going through MN6" where he talks about charge
24 flowing through another part of the circuit, correct?

25 A. So he says "leakage path," but leakage paths are not

1 charge-accumulating paths. At least this particular one
2 certainly isn't.

3 Q. In your opinion?

4 A. I've rendered that opinion, yes.

5 Q. Yes.

6 Mr. Amtmann didn't say that, right?

7 A. He simply calls that first path a "main path."

8 Q. Yeah. What troubles me is there was a suggestion between
9 Counsel and you that Mr. Amtmann agreed with you that there
10 was only one charge-accumulating path. I don't read that that
11 way.

12 Is your opinion based on an understanding that Mr. Amtmann
13 agreed that's the only path; yes or no?

14 A. Well, he describes it as a leakage path. And generally
15 persons of ordinary skill in the art don't consider leakage
16 paths to be doing any charge accumulation.

17 Q. In your opinion?

18 A. That's my technical opinion.

19 Q. Oh, so if I heard you right, then your opinions in this
20 case are based on the notion that Mr. Amtmann agreed that
21 there's only one charge-accumulating path; is that right?

22 A. No. From my technical analysis, I only found one
23 charge-accumulating path through the entire UCODE 8 and
24 UCODE 9 rectifiers.

25 Q. Now, sir, you relied on evidence in reaching that opinion,

1 right?

2 A. I did.

3 Q. And you relied on Mr. Amtmann's testimony.

4 You've shown it to the jury three or four times here in
5 your exam, right?

6 A. I considered his testimony along with the testimony of
7 many others and all the technical reports and data sheets and
8 schematics, et cetera.

9 Q. And your opinion in this case, and I'm just asking, is
10 based on your understanding that Mr. Amtmann agreed with you
11 that there was just one charge-accumulating path?

12 A. My opinion would be the same even if Mr. Amtmann hadn't
13 quoted it like this.

14 Q. Okay. So, well, you will agree with me that Mr. Amtmann
15 did not agree in the testimony you just showed that there's
16 just one charge-accumulating path in his words?

17 A. He calls the purple path that I've highlighted as the
18 main -- charge-accumulating path, the only charge-accumulating
19 path, as the "one main path."

20 Q. He didn't say one charge-accumulating path in his
21 response, correct?

22 A. He says "one main path."

23 Q. Thank you.

24 So you were asked a number --

25 You can take that down.

1 You offered a lot of testimony about current flows and
2 things going downstream in these circuits after -- within
3 various stages.

4 Can you pull up Exhibit 597?

5 (Exhibit published.)

6 **MR. HENDERSHOT:** And go to the -- could you go to the
7 page that has these rectifier diagram.

8 Actually, just go to page -- could you go to Exhibit 1272
9 at Page 11. It's the actual schematics, not the one that's --

10 (Exhibit published.)

11 **MR. HENDERSHOT:** There you go. Can you Zoom in on
12 that.

13 **Q.** Is that is the UCODE 8 rectifier?

14 **A.** That appears to be the UCODE 8 rectifier.

15 **Q.** How many stages in that rectifier?

16 **A.** So there are eight repeating units called id_c8_pmp14
17 [sic]. And those are those cut-and-paste pieces of identical
18 circuitry. In my analysis, in the way that the '597 talks
19 about a stage, there are those three repeating stages that I
20 outlined in my report or -- and also in my slide.

21 **MR. HENDERSHOT:** Can you publish that to the jury,
22 please. It's in evidence.

23 **THE CLERK:** Have we admitted that? I don't have it
24 in evidence.

25 **MR. HENDERSHOT:** Have we admitted 1272?

1 **THE COURT:** So have I admitted 1272? I don't recall
2 that anymore.

3 **MR. HENDERSHOT:** Okay. Can you pull up Exhibit 597.
4 Actually, strike that.

5 Go to the first page of this.

6 **THE COURT:** 1272 is stipulated, so I can admit it
7 now.

8 **MR. HENDERSHOT:** Can I admit 1272, Your Honor?

9 **THE COURT:** No, you can't, but I can.

10 **MR. HENDERSHOT:** Thank you, Your Honor.

11 May I proffer it for admission.

12 **THE COURT:** 1272 is admitted.

13 You can publish it.

14 (Trial Exhibit 1272 received in evidence)

15 (Exhibit published.)

16 **BY MR. HENDERSHOT:**

17 **Q.** So I don't know if I got an answer to my question. It's a
18 pretty simple one.

19 How many stages in that rectifier?

20 **A.** So as I said in my previous response, in the way that the
21 '597 defines stages, I outlined three boxes of series
22 representative stages.

23 **Q.** I'm just asking for a number.

24 **A.** Oh, three was the number I said.

25 **Q.** There are three stages in this?

1 **A.** According to the way that the '597 uses the term "stage,"
2 yes.

3 **Q.** How you draw them, right?

4 **A.** It's not a question of whether I draw them. One thing you
5 have to realize is that these are enormous schematics, right?
6 There's at least 60,000 devices in this chip that we're
7 talking about, that tiny little chip. So if we printed out
8 all of the devices on pieces of paper like we've been shown in
9 our folders, we would need something like, I don't know, 3- or
10 4,000 pieces of paper to stitch together. That would be
11 larger than this courtroom.

12 **Q.** Okay.

13 **A.** So the -- what I'm drawing and defining as a stage, I'm
14 tracing through what the engineers at NXP have given us about
15 this product to find all those different transistor
16 connections. And to be fair, this -- the engineers at NXP,
17 when they made the schematic, they're not doing anything
18 obfuscative about the charge pump. They're just doing things
19 in a way that is easier for simulation and testing and
20 coordination of this massive schematic files or set of files.

21 **MR. HENDERSHOT:** Your Honor, can I just note a motion
22 to strike that as nonresponsive, and we're dealing with time
23 later.

24 **THE COURT:** It's granted.

25 **MR. HENDERSHOT:** Thank you.

1 Q. So you say there are three stages in this?

2 A. There are three stages as defined by the '597.

3 Q. In your opinion, there are three stages in the rectifier?

4 A. That's my technical opinion when I analyzed the claim
5 language of the '597.

6 Q. Your opinion in infringement in this case relies upon a
7 definition where there are three stages in this rectifier
8 we're looking at right here; is that fair?

9 A. I've identified three stages that constitute infringement
10 of Claim 1 and Claim 15.

11 Q. Can you draw your three stages on here for me? I saw you
12 doing it earlier.

13 A. Yeah, sure. Stage one (indicating) is here.

14 Q. So that's the second half of that first box, the entirety
15 of the second box, and the middle -- and the first half of
16 third box?

17 A. Yes. When we observe the transistor connectivity, which
18 is occurring inside the boxes --

19 Q. Sir, a "yes" is fine. I just wanted to make sure I
20 understood the drawing.

21 A. Oh, yes, this is the synchronous element and it contains
22 the circuitry in those portions of boxes.

23 Q. Draw your second one.

24 A. The second charge pump stage is circuitry that's
25 (indicating) within this box, these boxes, that I've drawn

1 here.

2 Q. Can you draw your third one?

3 Now, the third stage, in your opinion, of this rectifier.

4 A. There is a third stage right there (indicating).

5 Q. So your last stage of this rectifier does not include a DC
6 output that goes to the rest of the circuit to power; is that
7 fair?

8 A. It's connected to the rest of the charge-accumulating path
9 that does contain an end at the DC output.

10 Q. So this is a three-and-three-quarter-stage rectifier?

11 A. No. This is a three-stage -- a rectifier with three
12 stages that practice the patent of the '597 and has some
13 additional charge-accumulating stages after it, which is not
14 prohibited in the claim language.

15 Q. All right. That's -- and that's your opinion for
16 infringement?

17 A. It's consistent with my opinions for infringement.

18 Q. Okay. So let me simplify.

19 Your opinion for infringement relies upon each one of
20 those boxes being a stage, correct?

21 A. As defined by the '597 that I walked through.

22 Q. And I actually made -- it was an imprecise question.

23 Your infringement opinion relies on each one of those
24 green boxes that you drew to be a stage in NXP's rectifier,
25 correct?

1 **A.** As part of my infringement position, I did identify stages
2 in those boxes.

3 **Q.** Okay. So you did not offer an opinion as to whether any
4 one of these boxes (indicating) contains all of the elements
5 required by the '597 claims to be included within a stage,
6 correct? You used the green boxes?

7 **A.** Well, the little rectangles inside the green boxes are
8 just arbitrary connectivity for the schematics. I went in and
9 I looked at the actual circuitry that's connected through all
10 of those boxes to get my opinion.

11 **Q.** Okay. And I'm just trying to find out what I need to talk
12 to you about. I'd like to save time today.

13 **A.** Okay.

14 **Q.** It's not your -- I didn't read you the offer and I don't
15 think it should be controversial.

16 You say a stage is a green box, correct?

17 **A.** As defined by the '597 yes.

18 **Q.** You did not offer an opinion as to whether any of these
19 individual boxes where I have blue arrows contains all of the
20 required elements of a stage in the claims.

21 You don't have an opinion that those infringe the stages?

22 **A.** My analysis did not look at just a single box.

23 **Q.** Okay. So -- so you did not offer an opinion, 'cause you
24 didn't analyze it, that one of those single boxes is a stage
25 as required by the claims?

1 **A.** Oh, I -- I analyzed the single boxes, but I find that the
2 claim practicing requires components from outside the
3 individual -- just one box.

4 **Q.** Okay. So the claim requires stuff from outside of the
5 individual one box so you defined the -- the stage to capture
6 all of that; is that fair?

7 **A.** That was the basis of my analysis.

8 **Q.** Okay. And just so I'm clear, and I -- really, I'm trying
9 to save time here.

10 It's not your -- it's not your opinion that any one of
11 these individual boxes, right here (indicating), includes the
12 required claim elements that have to be included in a stages.

13 You think it's within a green box, correct?

14 **A.** I believe it's the green box circuitry that infringes.

15 **Q.** And you didn't offer an opinion just limited to the blue
16 box, correct?

17 **A.** I analyzed it, and I found that you needed the green box
18 to get the infringement.

19 **Q.** But -- that's all I was trying to get to. I appreciate
20 your help.

21 **A.** Okay.

22 **Q.** So you wouldn't call those -- actually, strike that.

23 I'm going to call these out again for my next question.

24 (Exhibit published.)

25

1 **BY MR. HENDERSHOT:**

2 **Q.** Would you agree with me that each of those boxes that I
3 just marked with the arrows there is a block in a chain and is
4 a single stage in this charge pump?

5 **A.** No. I would only agree that those boxes are units of
6 repeating circuitry as organized in this schematic.

7 **Q.** You wouldn't call them a single stage?

8 **A.** No, I would call them id_uc8_pmp14.

9 **Q.** You said "_pmp14"?

10 **A.** Yes, that's the name of the repeating unit of blocks that
11 they have used in the schematic.

12 **Q.** And each of one of those is the individual stage of this
13 rectifier, right?

14 **A.** Each of those is a repeating unit of circuitry in the
15 schematic. The stages are the way that I've drawn it before.

16 **Q.** I keep hearing you guys use "cell" and "repeating unit"
17 and a bunch of words other than stage.

18 **MR. HENDERSHOT:** Your Honor, I would like to use from
19 his September 5th, 2022 deposition, Page 59, line 25 through
20 60, line 7.

21 May I approach, Your Honor?

22 **THE COURT:** You said 59, 25 through 60, what?

23 **MR. HENDERSHOT:** Line 7.

24 **THE COURT:** Okay.

25 Okay. Well, you can ask him first.

1 **MR. HENDERSHOT:** Okay.

2 Could I get the -- is the -- could I get the document
3 displayed again? Not his testimony, the underlying document.

4 (Exhibit published.)

5 **BY MR. HENDERSHOT:**

6 **Q.** Is what's shown in this figure a chain of charge pumps
7 where each block is a single stage?

8 **A.** This is showing a charge pump where there's a repeated
9 unit of circuitry, but the stages, as defined by the '597,
10 that I analyzed are the green boxes. So no.

11 **THE COURT:** Now, you may.

12 **MR. HENDERSHOT:** Can you show that testimony, please,
13 Mr. Lewis?

14 (Demonstrative published.)

15 **BY MR. HENDERSHOT:**

16 **Q.** Now you gave a deposition in this case, right?

17 **A.** I did.

18 **Q.** And you were under oath at that deposition?

19 **A.** I was.

20 **Q.** And you're under oath today.

21 At your deposition, you -- we have:

22 "Q. And in paragraph 167, referring to your report, you
23 referred to that single stage as, quote, id_uc8_pmp14.

24 There's an objection and then you respond.

25 So in the diagram below that statement, below paragraph

1 167, it's shown that each block in this change of -- in this
2 chain of charge pumps is a single stage as defined -- defined
3 as id_uc8_pmp14 in the schematic.

4 You were referring to the figure we were just looking at
5 in that answer, weren't you?

6 **A.** Yes, I recall this testimony. And I was identifying
7 id_uc8_pmp14 as the repeated block. Here, I referred to it as
8 a single stage, but I clearly was not using the definition of
9 a stage as defined in the '597. I was being -- using it in
10 the terms of an element or a module or a portion.

11 **Q.** You were using it in the terms that NXP uses to describe
12 its products, right?

13 They call those stages, don't they?

14 **A.** I saw a diagram where there was stages labeled as such.

15 **Q.** So your definition of "stage" for infringement in this
16 case requires adopting one that is different than NXP uses in
17 the design and depictions of its circuits, correct?

18 **A.** So I want to emphasize that infringement for these devices
19 doesn't matter what you call them. It matters the
20 connectivity of the transistors and the RF in the way that we
21 showed when we stepped through and dove in and out of these
22 boxes of connectivity in this really complicated schematic.

23 **Q.** You talk about the connectivity.

24 You're referring to the transistors and things like that
25 within the synchronous elements you talked about?

1 **A.** Yes, I'm talking about how transistors and RF inputs are
2 described in the claim language of the '597.

3 **Q.** And the term "stage" is a separate requirement of the '597
4 patent claims, isn't it?

5 **A.** It calls a stage two synchronous elements.

6 **Q.** In the claims?

7 **A.** It refers to a charge pump stage. If we could go back
8 to --

9 **Q.** I'd love to.

10 **MR. HENDERSHOT:** Can you pull up Exhibit 1 and go to
11 Claim 1, please.

12 (Exhibit published.)

13 **MR. HENDERSHOT:** Zoom in on the left-hand column
14 there, please, top half.

15 (Exhibit published.)

16 **BY MR. HENDERSHOT:**

17 **Q.** The claim recites a "plurality of serial couple stages, at
18 least one of the stages including..." It doesn't say defined
19 by. It doesn't say drawn by.

20 It says a stage has to include those elements, correct?

21 **A.** That's what the claim says.

22 **Q.** Yes. And we have to apply the claims in assessing
23 infringement, don't we?

24 **A.** Absolutely.

25 **Q.** Great. Love to find things we can agree upon.

1 So let's go back to talking about stages.

2 Could you, please, go back to the schematic drawing of
3 rectifier, please? I believe it was 1272, Page 11, which the
4 Court admitted into evidence.

5 So --

6 **A.** So the reason I asked for --

7 **THE COURT:** There isn't a question pending.

8 **THE WITNESS:** My apologies.

9 **MR. HENDERSHOT:** I don't have a question pending,
10 sir.

11 **THE COURT:** They're on time limits, so just listen
12 for the question and answer the question.

13 **THE WITNESS:** Okay.

14 **BY MR. HENDERSHOT:**

15 **Q.** So would you agree with me that in -- at -- this is an
16 accurate representation of NXP's UCODE 8 rectifier, correct?

17 **A.** This shows the connectivity of the circuitry inside the
18 NXP rectifier.

19 **Q.** It's a diagram you relied on in forming your opinion in
20 this case, is it not?

21 **A.** It is.

22 **Q.** So is it accurate or not?

23 **A.** This is an accurate circuit diagram.

24 **Q.** Thank you.

25 So would you agree with me that each individual stage in

1 this rectifier is the id_uc8_pmp14 and that each of those
2 blocks are labeled that way and you can see that all one, two,
3 three, four, five, six, seven -- eight stages are labeled that
4 way? You agree with that?

5 **A.** I agree there are eight boxes labeled that way.

6 **Q.** And you would agree that those are the single stages of
7 this rectifier, correct?

8 **A.** No.

9 **Q.** You would not?

10 **A.** No. I define the stage using the '597. And you can see
11 it in figure 8B where it says "synchronous stage --
12 synchronous rectifier stage." And it says it's "synchronous
13 element number one" and "synchronous element number two" next
14 to it.

15 **Q.** It's not your first case testifying as an expert, right?

16 **A.** No, it is not.

17 **Q.** Okay. Well, then, you know, you can't infringe a figure,
18 right? You have to infringe a claim, correct?

19 **A.** That's correct. You have to use the proper claim language
20 as understood by a person of ordinary skill in the art.

21 **Q.** And I asked you a question about a schematic and you ran
22 to a figure in the patent and you didn't even go to the claim
23 language in your response, right, just now? I want to make
24 sure I observed it correctly.

25 **A.** Well, I was just telling you that what you're calling a

1 stage in your question is not what the patent calls a
2 synchronous rectifier stage in figure 8B.

3 **Q.** But you would agree that those are the individual
4 stages -- one, two, three, four, five, six, seven, eight -- in
5 NXP's rectifier, correct?

6 **A.** These are not called stages on this schematic. They're
7 just repeated units of circuitry.

8 **MR. HENDERSHOT:** Your Honor, I would like to use --
9 his September 5th, 2022 deposition, Page 60, lines 9 to 14.

10 (Pause in the proceedings.)

11 **THE COURT:** Go ahead.

12 **MR. HENDERSHOT:** Could you show that testimony,
13 please, Mr. Lewis?

14 (Demonstrative published.)

15 **BY MR. HENDERSHOT:**

16 **Q.** This is also from your deposition, correct?

17 **A.** That's correct.

18 **Q.** This is you testifying under oath and penalty of perjury?

19 **A.** Absolutely.

20 **Q.** About the same figure we've just been looking at?

21 **A.** I presume so because it's labeled with that same
22 id_uc8_pmp14.

23 **Q.** And under oath and penalty of perjury, you were asked the
24 question, "And my understanding is that each individual stage
25 is the id_uc8_pmp14. Is that your understanding?"

1 The question was asked of you, correct?

2 A. That was my statement and understanding.

3 Q. That question was asked of you, and then you said, "So in
4 the stage about diagram below paragraph 167" -- again in your
5 report, the figure we've been talking about -- "each block is
6 labeled id_uc8_pmp14. And you can see that all one, two,
7 three, four, five, six, seven, eight stages are labeled as
8 such." Correct?

9 A. That's right.

10 Q. Okay. So you said there were one, two, three, four, five,
11 six, seven, eight stages that are labeled that way.

12 A. So it looks as though I was using the same terminology of
13 the question that was asked. The question asked is, is that
14 each individual stage, is the id_uc8_pmp14. And we were
15 pointing to those four boxes -- those eight boxes.

16 Q. The stages in the rectifier that we just saw?

17 A. Those are the repeating units of circuit repetition.
18 They're not the synchronous rectifier stage as the '597
19 defines it.

20 Q. You say, "as it defines it."

21 You're referring to the specification, correct?

22 A. That's correct, figure 8B, which informs how the claim
23 language is supposed to be interpreted.

24 Q. Stage is a separate limitation we just saw in Claim 1 from
25 the contents of that, correct?

1 **A.** That's right. Stage is mentioned in Claim 1.

2 **Q.** And the claim requires that a stage in a rectifier, like
3 the individual boxes you testified to under oath, in NXP's
4 rectifier have to contain all of those elements that follow,
5 correct?

6 **A.** The stages have to have the connectivity of all those
7 transistors that we talked about and the RF inputs as well.

8 **MR. HENDERSHOT:** Could you pull up Exhibit 16?

9 Is that in evidence?

10 Not in?

11 **THE COURT:** Sixteen is in evidence.

12 **MR. HENDERSHOT:** It is in evidence?

13 **THE COURT:** It is.

14 **MR. HENDERSHOT:** Thank you, Your Honor.

15 **THE COURT:** And you have about seven minutes before
16 our break.

17 **MR. HENDERSHOT:** Thank you.

18 (Exhibit published.)

19 **BY MR. HENDERSHOT:**

20 **Q.** Can you show -- this is the Monza M700 series schematics.

21 You offered an opinion that the M700 series practices
22 these claims as well, right?

23 **A.** I recall that.

24 **Q.** And among the thousands of pages of stuff you reviewed
25 were these schematics, correct?

1 A. That's correct.

2 Q. Okay.

3 MR. HENDERSHOT: Could you please go to Page 20?

4 (Exhibit published.)

5 MR. HENDERSHOT: Page 120. I'm sorry.

6 (Exhibit published.)

7 BY MR. HENDERSHOT:

8 Q. Do you recognize this drawing?

9 A. Yes. This comes from the schematic of that Monza device.

10 Q. This is the Impinj M700 multistage rectifier, correct?

11 A. I believe, yes.

12 Q. That you say practices the patent?

13 A. Yes, it does.

14 Q. How many stages in that one?

15 A. (Reviewing document.)

16 So I would like to see the circuitry beforehand because I
17 can't tell just from a deviceless portion of the schematic.
18 But I believe that the -- there's a similar device stage
19 definition to the one that we used previously where some
20 devices from each of these modules in the schematic constitute
21 a synchronous rectifier stage.

22 Q. You call these boxes "modules." They're labeled "stages,"
23 right?

24 A. They're labeled, "Stg1, Stg2, Stg3." It's a generic
25 variable name.

1 Q. You were here for Mr. Oliver's testimony, weren't you?

2 A. I was.

3 Q. I asked him, is that a stage. What did he say? Did he
4 say it's nomenclature variable? He said they're stages,
5 didn't he? "Stg" stands for "stage"?

6 A. So I think they're using that term generically in terms of
7 just how to define the repeating elements. They could have
8 used "module." They could have used "portion." They could
9 have used "element." They could have used "repeating unit
10 of" -- "of circuit elements."

11 Q. There are 10 items labeled "stage" in the rectifier
12 diagram, correct?

13 A. There are 10 boxes that have the "Stg" designation.

14 Q. Okay. And your -- your opinion is that -- applying your
15 analysis here, there are not 10 stages in this rectifier?

16 A. If we're using the definition as it's constituted for
17 "synchronous rectifier stage" in the '597, you can't look at
18 the arbitrary boxes of the schematic. You have to look at the
19 device pathway through those boxes.

20 Q. Have you talked to Impinj engineers in this case?

21 A. I recall having a few conversations with some Impinj
22 engineers.

23 Q. They drew these to represent their rectifier
24 schematically, correct?

25 A. I don't recall who actually drew this or developed their

1 schematic, if it was done in-house or --

2 (Simultaneous colloquy.)

3 **BY MR. HENDERSHOT:**

4 **Q.** You relied --

5 **A.** -- which engineers did it.

6 **Q.** You relied on this picture to offer an opinion that the
7 R700 practices the claims.

8 And you can't tell me if you know if it's reliable or who
9 did it?

10 **A.** Oh, I didn't say it was unreliable. But I'm saying that
11 this picture alone, you can't tell if it's practicing. You
12 have to look at the device connectivity as well, the other
13 parts of the schematic.

14 **Q.** Is it your testimony that the Impinj engineers at the
15 company that owns this '597 patent and designed this circuit
16 arbitrarily named their rectifier stages "stages"?

17 You said it's an arbitrary box earlier.

18 **A.** I said that the name was arbitrary. It's like a variable
19 name in programming. You can call it whatever you want.

20 **Q.** And they chose to call these the stages of their
21 rectifier?

22 **A.** That appears to be the label that they've given.

23 **MR. HENDERSHOT:** Your Honor, I'm at a stopping point
24 if you wanted to break. Or I can continue.

25 **THE COURT:** Okay. That's fine. So we'll take our

1 second break, and we'll call -- it's 20 minutes from right
2 now. All right?

3 We'll stand in recess with the jury for 20 minutes.

4 **THE CLERK:** Please rise for the jury.

5 (The following proceedings were heard out of the presence
6 of the jury:)

7 **THE CLERK:** Please be seated.

8 **THE COURT:** Okay. You can step down.

9 **THE WITNESS:** Thank you.

10 **THE COURT:** Anything you want to talk about before we
11 keep going?

12 **MR. HENDERSHOT:** Not from me, Your Honor.

13 **MS. McCULLOUGH:** No, Your Honor, thank you.

14 **THE COURT:** All right. We'll stand in recess, then,
15 for 20 minutes.

16 (Recess taken at 11:48 A.M.; proceedings resumed at
17 12:04 P.M.)

18 (The following proceedings were heard out of the presence
19 of the jury:)

20 **MR. HENDERSHOT:** Your Honor, is there something we
21 can take up at a sidebar?

22 **THE COURT:** Okay.

23 (Proceedings were heard at the sidebar; not reported.)

24 (The following proceedings were heard in the presence of
25 the jury:)

1 **THE CLERK:** Please be seated.

2 **THE COURT:** Okay. We're back on the record. The
3 record will reflect the jury has returned.

4 You may continue, Mr. Hendershot.

5 **MR. HENDERSHOT:** Your Honor, I was remiss earlier in
6 not providing Your Honor or the witness a cross-examination
7 binder. I apologize.

8 **THE COURT:** That's okay. I have so much stuff up
9 here. I'll have to find a place for it.

10 **MR. HENDERSHOT:** May I approach the witness?

11 **THE COURT:** You may.

12 **BY MR. HENDERSHOT:**

13 **Q.** Dr. Durgin, would you agree with me that an RFID IC's read
14 sensitivity is an important feature or parameter?

15 **A.** I agree.

16 **Q.** And has read sensitivity for these RFID ICs improved over
17 time?

18 **A.** Yes, they have.

19 **Q.** Has the reduction in transistor size over time contributed
20 to that improvement in read sensitivity?

21 **A.** Through certain epics, yes, reducing the transistor size
22 has contributed to that drop insensitivity.

23 **Q.** Over time, have the designers of these devices become
24 better at optimizing the ICs to consume less power?

25 **A.** Yes. IC designers have learned to use less power.

1 Q. And that improves read sensitivity?

2 A. Under certain circumstances, it can.

3 Q. Well, isn't read sensitivity, on some level, defined by
4 the power required to operate in these ICs?

5 A. So that's defined as the input power that makes them
6 operable. It could be a power or voltage limited IC.

7 Q. Well, as the power or voltage required to operate these
8 ICs reduces, their read sensitivity increases; is that fair?

9 A. No. Because a lot of times, tags are voltage limited. It
10 means the charge pump needs to get to a certain voltage
11 threshold on its output. And by then, there's enough power
12 to -- more than enough power to run the IC.

13 Q. But if you need to generate less power, wouldn't you be
14 able to activate these ICs with a radio wave more often or
15 from further away?

16 A. If the sensitivity is lower, you can operate it from
17 further away.

18 Q. If the sensitivity the higher --

19 A. No --

20 (Simultaneous colloquy.)

21 Q. If the negative DB -- as it goes down. You're correct.

22 A. Yeah.

23 Q. If the sensitivity is better, you can operate from further
24 away?

25 A. Improved sensitivity has better range usually.

1 Q. And over time, have engineers become savvier at matching
2 tag and antenna impedances to maximize power transfer in these
3 products?

4 A. I believe that there's been better matching product --
5 better matching antennas and ICs over the years.

6 Q. And that's also contributed to the improvement in read
7 sensitivity over time?

8 A. Yes, that's contributed.

9 Q. Thank you.

10 And you talked about leakage. I'm going to jump around a
11 bit because I'm trying to be brief for a change.

12 Would you -- and so let's take a step back. These are
13 RFID ICs. They operate in very low power, correct?

14 A. That's right.

15 Q. And that power is driven by a RF radio wave?

16 A. That's where it gets its power from, the passive ICs.

17 Q. And would you agree with me that as power or the amplitude
18 of that RF power gets lower, the -- the difference in the --
19 the amount of current flowing one way through a transistor and
20 leakage current becomes diminishingly small?

21 A. Yes. If you're operating below the sensitivity of the
22 RFID tag, then there might not be even enough voltage to turn
23 the devices on. And then you can't start the charge pump up
24 and get to the appropriate voltage level.

25 Q. The lower the power, closer the leakage is to the --

1 leakage current is to the current flowing through the
2 transistor the other way, fair?

3 **A.** Transistors and diodes tend to work that way.

4 **Q.** Okay. Thanks.

5 **MR. HENDERSHOT:** I'm -- could you pull up -- just
6 show for the witness Exhibit 1335?

7 **BY MR. HENDERSHOT:**

8 **Q.** Do you recognize this, Dr. Durgin?

9 **A.** I do. This is -- appears to be a schematic in
10 Dr. van der Weide's report.

11 **Q.** And it's something you addressed in your opinions in this
12 case?

13 **A.** It is.

14 **Q.** And it's something you addressed in your direct
15 examination, correct?

16 **A.** That's correct.

17 **MR. HENDERSHOT:** Your Honor, I'd move to admit
18 Exhibit 1335.

19 **THE COURT:** Any objection?

20 **MS. McCULLOUGH:** No objection, Your Honor.

21 **THE COURT:** It's admitted.

22 (Trial Exhibit 1335 received in evidence)

23 **MR. HENDERSHOT:** Could we please publish it to the
24 jury.

25 (Exhibit published.)

1 **MR. HENDERSHOT:** Thank you.

2 **BY MR. HENDERSHOT:**

3 **Q.** So there are four squares on there or roughly squares that
4 are in blue and red.

5 Do you see that?

6 **A.** I do.

7 **Q.** Those are transistors, correct?

8 **A.** Those are the transistors labeled one -- M1, M2, M3, and
9 M4 in Dr. van der Weide's report.

10 **Q.** And you don't disagree that those transistors are there in
11 the NXP circuit schematics that this is based on?

12 **A.** I don't doubt that.

13 **Q.** Okay. And there's been a -- a way to illustrate things
14 used in this case with a blue and red and up and down cycles.
15 And I just want to make sure I understand it.

16 If that transistor M1 is blue there, does that mean it is
17 conducting current during one half of an RF cycle?

18 **A.** So I believe in this diagram, Professor van de Weide is
19 sketching out the charge-accumulating path. So I don't think
20 he's referring to RF cycles. I think he's just referring to
21 where the DC charges would accumulate in his opinion.

22 **Q.** Okay. And so let's leave the paths out. I just want to
23 talk about the squares for now.

24 **A.** Okay.

25 **Q.** We can have our fights over the paths in a bit.

1 I think we can agree, though, that in NXP's circuit as it
2 operates, the blue transistors, M1 and M4, would be I guess
3 open and conducting at the same time at the same part of the
4 cycles?

5 **A.** So M1 would be open and conducting in Dr. van der Weide's
6 analysis on the first phase.

7 **Q.** And would you agree with that?

8 **A.** That's one of the power switching transistors, so that
9 could be opened by the gate and the RF coupled to it.

10 **Q.** It -- okay. So that could be open on the first phase?

11 **A.** I don't have his report. I don't know whether he calls it
12 the first phase or the second phase. I'd have to refresh my
13 recollection.

14 **Q.** You pick one. First phase or second phase because I just
15 want to know how the blue compares to the red on the first and
16 second phase.

17 **A.** One is off, and the other one is on for M1 and M2 on the
18 screen.

19 **Q.** Okay.

20 **A.** And they alternate with the RF phase.

21 **Q.** And do M3 and M4 also alternate with the RF phase?

22 **A.** Well, they're not switched. They're diode connected, so
23 if you see -- these are operating like valves. And they
24 basically will let current through easily in one direction,
25 and they will resist in the other direction.

1 And because this is a charge-accumulating path up here
2 when the -- when the charge pump is operating, there's a
3 positive voltage on that circuit. So it's almost like this
4 circuit exists on a hill. If it wasn't for the RF phases, the
5 charges want to go back to in opposite direction. That means
6 there's as DC voltage drop across these nodes, and these
7 valves are being held shut by that pressure. And that means
8 that there's only a little bit of what we've been referring to
9 as leakage current moving in the opposite direction of what
10 Will Professor van der Weide has shown.

11 **MR. HENDERSHOT:** Your Honor, I move to strike that as
12 nonresponsive when we're allocating time.

13 **THE COURT:** Sustained.

14 **BY MR. HENDERSHOT:**

15 **Q.** Let me ask again because maybe you didn't understand.

16 On the -- on the red phase, let's call it the red phase,
17 when M2 is open and conducting, do you have any understanding
18 as to whether or not current would be flowing down through M3?
19 And if you don't, that's fine. I can move on.

20 **A.** When the -- I've drawn the current as a small current
21 going up M3.

22 **Q.** So your opinion in this case with respect to M3 and M4 is
23 that current flows up through M3, and none flows down on the
24 red phase?

25 **A.** Under normal operation, I believe that these devices are

1 basically off and more off so that there's just a little bit
2 of leakage in both instances going up the transistor.

3 Q. So same for the blue one?

4 A. In the blue one --

5 Q. M4, I should say.

6 A. M4, the polarity is switched. It's a relatively small
7 current, and it's trickling down in both phases.

8 Q. Is the polarity switched on M3 to allow current to flow in
9 one direction on the red phase at the same time M2 is open and
10 conducting?

11 A. The polarity does not switch on the diodes. They're
12 biased in reverse on both RF phases.

13 Q. Okay. So you're not -- your infringement opinion in this
14 case is based on -- in part, on understanding that current
15 does not flow down from top to bottom through M3 on the red
16 phase?

17 A. That's one of many factors for why this is not a
18 charge-accumulating path down through the circuitry.

19 Q. And then you also have an opinion in this case that charge
20 does not flow up through M4 on the blue phase? And that's a
21 basis -- one of bases for your non-infringement opinion?

22 A. I'm saying that, yeah, under normal operation, there's a
23 small charge going down through M4 on both phases and that
24 this doesn't represent a charge-accumulating path as
25 Professor van der Weide has sketched out.

1 Q. Okay. So you disagree with the flow of charge being
2 illustrated here on the red path, fair to say, through M3 and
3 M4?

4 A. If the charge pump is operating normally, then I do
5 disagree with this characterization.

6 Q. All right. We'll hear about that.

7 MR. HENDERSHOT: You can take that one down.

8 Can you show the witness Exhibit 1373?

9 (Exhibit published to witness, counsel and the court.)

10 BY MR. HENDERSHOT:

11 Q. Dr. Durgin, you're being shown Exhibit 1373, which is one
12 of documents you reviewed in preparing your opinions in this
13 case, right?

14 A. I did.

15 Q. Okay.

16 MR. HENDERSHOT: Your Honor, I would move to admit
17 Exhibit 1323 [sic].

18 THE COURT: Any objection?

19 MS. McCULLOUGH: No objection, Your Honor.

20 THE COURT: It's admitted.

21 (Trial Exhibit 1373 received in evidence).

22 MR. HENDERSHOT: Could you move to Page 45,
23 Mr. Lewis?

24 (Exhibit published.)

25 MR. HENDERSHOT: And could you zoom in on the

1 paragraph beginning with, "The simplicity," and pick up the
2 rest of the paragraph on the next page, please.

3 (Exhibit published.)

4 **BY MR. HENDERSHOT:**

5 **Q.** So these are -- these are statements being made by Impinj
6 in the document, correct, Dr. Durgin?

7 **A.** I'm trying to orient myself. This looks like -- yes, this
8 is.

9 **Q.** It was a response filed in another proceeding?

10 **A.** Yes.

11 **Q.** And this is Impinj speaking, though? That's all I want to
12 clarify.

13 **A.** I believe so.

14 **Q.** So it says in about the third line, "Any rectifier design
15 that included extraneous transistors such as the rectifier of
16 the Mandal thesis necessarily included additional
17 charge-accumulating pathways as a result of the paths through
18 the transistor terminals."

19 Do you see that?

20 **A.** I see that statement.

21 **Q.** And you reviewed that in preparing your opinions in this
22 case?

23 **A.** I did.

24 **Q.** Do you agree with it?

25 **A.** Yes, generally. I would specify that we're talking about

1 synchronous transistors, the ones that are switched by RF.

2 Q. That sentence doesn't say anything about synchronous
3 transistors, does it?

4 MR. HENDERSHOT: You can highlight it from "any" down
5 to "transistor terminals," Mr. Lewis.

6 BY MR. HENDERSHOT:

7 Q. "Any rectifier design that included extraneous transistors
8 such as the rectifier of the Mandal thesis necessarily
9 included additional charge-accumulating pathways as a result
10 of the paths through the transistor terminals," right?

11 A. That's what the statement says.

12 Q. And it doesn't include the word "synchronous?"

13 A. No, it's not using that word.

14 MR. HENDERSHOT: Could you go to Page 44, please.

15 Should be a paragraph starting with "Because Mandal's" at
16 the bottom there.

17 (Exhibit published.)

18 THE WITNESS: I see that.

19 BY MR. HENDERSHOT:

20 Q. It says, "Because Mandal's cells have transistors
21 connected in parallel to the ones petitioner relies on for the
22 synchronous elements, the leakage current creates multiple
23 charge-accumulating paths other than the first path of
24 claims."

25 Do you see that?

1 **A.** I see that statement.

2 **Q.** Reviewed that in formulating your opinions in this case?

3 **A.** I did.

4 **Q.** Do you agree with it?

5 **A.** I do agree that Mandal has those multiple
6 charge-accumulating paths.

7 **Q.** And that those leakage currents create multiple
8 charge-accumulating paths other than the first path, right?

9 **A.** Well, what this report is causing -- calling a leakage
10 path is just an interaction on a main charge-accumulating
11 path. We're not leaving the charge-accumulating path and
12 inventing paths by calling it "leakage." We're just saying
13 that the leakage -- the charge-accumulating paths connect, and
14 there are portions that can interact through leakage.

15 **Q.** So it's okay to invent new stages but not new paths?

16 **A.** No. When you make an opinion about infringement and
17 you're asked about stages, you have to go to the patent and
18 use how they've defined stages just like you would have to go
19 to the patent -- the claim language and the specification to
20 figure out how they used accumulating path first and second.

21 **MR. HENDERSHOT:** Could you go to Page 38, please,
22 Mr. Lewis? There's a paragraph beginning with "The challenged
23 claims."

24 (Exhibit published.)

25 **MR. HENDERSHOT:** And I'm looking at the last sentence

1 if you could highlight that.

2 (Exhibit published.)

3 **BY MR. HENDERSHOT:**

4 **Q.** And the challenged claims here include Claims 1 and 15 of
5 '597 patent that we're dealing with, right?

6 **A.** I believe so.

7 **Q.** "In other words, the challenged claims require that no
8 charge flows between the beginning and ending nodes of the
9 synchronous element other than through the two transistors
10 that make up the synchronous element."

11 Do you see that?

12 **A.** I see that.

13 **Q.** And you reviewed that in formulating your opinions in this
14 case?

15 **A.** I certainly read this document and used that in my
16 opinions.

17 **Q.** And you agree with that statement right there?

18 **A.** (Reviewing document.)

19 So I would probably reword it so that it matches the exact
20 claim language. And that is that "there is no additional
21 charge-accumulating path between the beginning and end node of
22 the synchronous element."

23 **Q.** So you would word it differently than "no charge flows"?

24 **A.** I would say that there's no charge-accumulating path. If
25 no charge flows, then there's not a charge-accumulating path.

1 Q. But it says "the challenged claims require that no charge
2 flows," correct?

3 A. That's what this document says, yes.

4 Q. And this is Impinj writing about its claims here, correct?

5 A. I -- yes, it is.

6 Q. And you said earlier that you've got a definition in your
7 mind of charge-accumulating path, but there would be other
8 paths where charge flows in the Circuit. fair?

9 A. Since charge can flow through any circuit element and
10 through any of those connections we've been looking at, it
11 would be fair to say that those can be charge-carrying paths.

12 Q. Where charge can flow?

13 A. Charge carrying -- charge flowing.

14 Q. I mean, you used a term earlier "charge-bearing path" or
15 something.

16 Do I have that right?

17 A. I think it's charge carrying.

18 Q. Is a charge-carrying path one where charge flows?

19 A. Yes.

20 Q. Perfect.

21 MR. HENDERSHOT: No more questions, Your Honor.

22 THE COURT: All right.

23 Redirect limited to the scope of cross.

24 MS. McCULLOUGH: Thank you, Your Honor.

25

REDIRECT EXAMINATION

BY MS. McCULLOUGH:

Q. Thank you, Dr. Durgin.

Could we bring Exhibit 1323 back up please, that first page.

(Exhibit published.)

MS. McCULLOUGH: Oh, I apologize. My notes are wrong.

THE COURT: I think it's 1373.

MS. McCULLOUGH: 1373, please.

(Exhibit published.)

THE COURT: And just to make sure the record is right, I think you may have said 1323. So we've been talking about 1373.

MR. HENDERSHOT: Agreed. And I apologize for the mistake, Your Honor.

MS. McCULLOUGH: Thank you, Your Honor.

BY MS. McCULLOUGH

Q. Dr. Durgin, you were shown some statements from this exhibit a minute ago; is that correct?

A. That's correct.

Q. And do you have an understanding of what the document is?

A. Yes, it -- I do.

Q. Reading from just the top of this document, it appears to be a submission to the Patent Trial and Appeal Board within

1 the United States Patent and Trademark Office; is that right?

2 A. That right.

3 Q. And we saw some statements a moment ago about the Mandal
4 prior art references; is that correct?

5 A. I saw those statements.

6 Q. Has the patent office considered --

7 MR. HENDERSHOT: Your Honor, There's a motion in
8 limine on other proceeding,s, and I tried to be very focused
9 in my exam to limit that to statements he was relying upon.
10 And I don't think they want to, but I think they're moving
11 towards something that's probated by a MIL about other
12 proceedings.

13 MS. McCULLOUGH: Your Honor, we believe this opens
14 the door to this line of questioning.

15 THE COURT: I'm going to allow -- you keep it as
16 narrow as possible.

17 MS. McCULLOUGH: I will, Your Honor. Just two
18 questions.

19 BY MS. McCULLOUGH

20 Q. Has the patent office considered the validity of the '597
21 patent over the Mandel prior art references?

22 A. Yes, it has.

23 Q. Do you understand the outcome of that consideration?

24 A. I do.

25 MR. HENDERSHOT: Your Honor, that's what I was --

1 **THE COURT:** Not relevant.

2 **MS. MCCULLOUGH:** Thank you, Your Honor.

3 We can take that exhibit down.

4 **Q.** Does the word "stage," Dr. Durgin, mean something specific
5 in electrical engineering?

6 **A.** Not really. It's used to refer to any number of things
7 that the words "element" or "module" or "portion" would be
8 synonyms for.

9 **Q.** And has the Court in this case given us a specific
10 definition that we have to use when we see the word "stage" in
11 the claims?

12 **A.** So when considering infringement, the Court has instructed
13 us to use the terms in the claim language, their ordinary
14 meaning as a person of the ordinary skill in the art would
15 have interpreted them when looking at the claim language in
16 light of specification.

17 **Q.** For the '597 patent?

18 **A.** For the '597 patent.

19 **Q.** Okay. And so what do you understand that word "stage" to
20 mean given your -- your status as a person of skill in the art
21 in view of the '597 patent's disclosure?

22 **A.** So when I'm asked about anything related to the '597, I
23 have to adopt the clearly spelled out definition of
24 synchronous rectifier stage that's discussed in the claim
25 language and the specification text and the diagrams.

1 **MS. McCULLOUGH:** And if I could have 597, Exhibit 597
2 up please, Page 6.

3 (Exhibit published.)

4 **MS. McCULLOUGH:** And if I could Zoom in on the small
5 box on the lower left.

6 (Exhibit published.)

7 **BY MS. McCULLOUGH:**

8 **Q.** Dr. Durgin, you were asked about this page of Exhibit 597;
9 is that correct?

10 **A.** It not coming up on my --

11 **MS. McCULLOUGH:** Oh, I'm sorry. Can I publish that
12 to the jury?

13 **THE COURT:** You may. It's in evidence.

14 (Exhibit published.)

15 **THE WITNESS:** Okay. I'll tell you when it comes up.

16 **THE CLERK:** Let me reset, Your Honor.

17 (Exhibit published.)

18 **THE WITNESS:** I see it.

19 **BY MS. McCULLOUGH:**

20 **Q.** This is an NXP schematic; is that correct?

21 **A.** That's correct.

22 **Q.** And does this actually say the word "stage"?

23 **A.** No, it does not.

24 **Q.** But it might have, right?

25 **A.** They're entitled to call it whatever they want.

1 Q. We saw an Impinj schematic where they called their charge
2 pump cells a stage; is that right?

3 A. Yes, we did.

4 Q. Is a rectifier, when we're looking at the actual circuit,
5 is that made up of boxes, or is that made up of circuit
6 components?

7 A. There are no boxes. Those are there just for convenience
8 to understand this huge schematic that we're dealing with.
9 They don't exist on the actual circuit.

10 Q. So they're -- there's nothing drawn on the PCB in very
11 tiny dotted lines?

12 A. No.

13 Q. So if -- if NXP's engineers had called this a module, or a
14 cell, or a block, would that have changed anything about your
15 opinions in this case?

16 A. The name is not at issue with these claim evaluations.

17 Q. Okay. And you were shown clips from your deposition a
18 moment ago, Dr. Durgin.

19 Do you recall that?

20 A. I do.

21 Q. Were you being asked in those clips about the language of
22 the claim, any claim of '597 patent?

23 A. No. I recall being asked about the language on the
24 document in front of me and using the terminology of the
25 questioner.

1 Q. And -- and to that point, I -- I had understood Counsel
2 for NXP to imply that you had used an agreed word for the
3 patented definition of stage.

4 Is that what you were doing in those deposition clips?

5 A. No. I was just using the terminology of the document that
6 was in front of me and that I was being questioned about.

7 MS. McCULLOUGH: Your Honor, I'd like to publish
8 under 801(d)(1)(B) Page 61 of Dr. Durgin's September 5th, 2022
9 deposition, lines 2 through 8.

10 MR. HENDERSHOT: What was the citation?

11 THE COURT: Sixty-one, what lines? 2 through 8?

12 MS. McCULLOUGH: That's right.

13 MR. HENDERSHOT: Your Honor.

14 THE COURT: Hold on.

15 What exhibit are we talking about here?

16 MS. McCULLOUGH: This is Dr. Durgin's deposition
17 transcript.

18 THE COURT: I understand that. But you don't get it
19 in under 801(d) unless --

20 MS. McCULLOUGH: Prior --

21 THE COURT: -- there's a --

22 MS. McCULLOUGH: This would be for prior consistent
23 statement purposes.

24 THE COURT: With respect to his prior testimony in
25 court today.

1 So my question is, what exhibit is he being -- is
2 referenced in these lines? Is it something that he testified
3 about today?

4 **MS. McCULLOUGH:** This is in response to deposition
5 testimony that Counsel crossed him on, Your Honor. But for
6 time purposes I can withdraw that and ask the question
7 differently.

8 **THE COURT:** Go ahead.

9 **BY MS. McCULLOUGH:**

10 **Q.** Dr. Durgin, you noted that your answers to the deposition
11 questions that were asked of you were framed in a responsive
12 way to the -- the manner in which Counsel for NXP had asked
13 you the question.

14 Did I get that right?

15 **A.** That's right.

16 **Q.** If he had framed his question in terms of a module, would
17 your answer have been different?

18 **A.** No.

19 **Q.** Would you have used the word "module" in your answer?

20 **A.** Probably.

21 **Q.** How about "block"?

22 **A.** I wouldn't -- it wouldn't have been a different answer and
23 I probably would have used "block" in my response out of
24 courtesy.

25 **Q.** Okay. So were you talking about what the claims of the

1 patent are actually talking about?

2 **A.** No.

3 **Q.** So let's look at the claims of patent, Dr. Durgin.

4 **MS. McCULLOUGH:** Could I have Page 31 of Dr. Durgin's
5 demonstrative, please.

6 (Demonstrative published.)

7 **MS. McCULLOUGH:** Might I publish that for the jury?

8 **THE COURT:** If it's in evidence, yes.

9 **MS. McCULLOUGH:** This is Dr. Durgin's demonstratives.
10 There are no objections.

11 **MR. HENDERSHOT:** If it's what they showed earlier,
12 I've got no objection.

13 **THE COURT:** That's fine then.

14 **BY MS. McCULLOUGH:**

15 **Q.** So this is your page where you talked to the jury about
16 where you understand UCODE to include a "plurality of serially
17 coupled stages"; is that right?

18 **A.** That's correct.

19 **Q.** And does the claim give a specific definition of what a
20 stage is?

21 **A.** So it says a plurality of serial coupled stages, and then
22 it lists all the elements that are included in those stages.

23 **Q.** Included in at least one of those stages; correct?

24 **A.** In at least one of those stages.

25 **Q.** And did you walk the jury through where all of those

1 elements that must be in at least one of those stages are
2 found in UCODE?

3 **A.** I did.

4 **MS. McCULLOUGH:** Can I have Slide 41 of this
5 document, please.

6 (Demonstrative published.)

7 **BY MS. McCULLOUGH:**

8 **Q.** Okay. I think there was also an implication that we had
9 somehow or -- or you had not identified the full answer of
10 Mr. Amtmann in one of your slides during your
11 cross-examination, sir.

12 Did Mr. Amtmann say there were multiple main paths in
13 UCODE?

14 **A.** No. He just said there was "one main path."

15 **Q.** And have you excluded any part of his answer here in what
16 you've -- what you've identified?

17 **A.** I do not believe so.

18 **Q.** Did you highlight that Mr. Amtmann said there are -- there
19 is also a different path that includes a leakage path?

20 **A.** There's a highlighting in that.

21 **Q.** And is that what he was referring to when he said there is
22 "one main path"?

23 **A.** No. He was talking about a second leakage part going
24 through MN6, one of the transistors in this schematic.

25 **Q.** And in the context of a rectifier for an RFID tag circuit,

1 what do you understand his reference to a main path to be
2 here?

3 **A.** The blue line that's dotted that goes through M1 in that
4 adjacent schematic.

5 **Q.** And, again, in the context of an RFID rectifier circuit,
6 what is a charge-accumulating path?

7 **A.** It's the path that draws up the voltage-accumulating
8 charge until it gets to a DC output that can be used to power
9 the rest of circuit, for example.

10 **Q.** So that same main path?

11 **A.** That's it.

12 **MS. MCCULLOUGH:** No further questions, Your Honor.

13 **THE COURT:** Recross limited to the scope of redirect.

14 **MR. HENDERSHOT:** Thank you, Your Honor.

15 Couple quick points.

16 REDIRECT EXAMINATION

17 **BY MR. HENDERSHOT:**

18 **Q.** Trying to figure something out.

19 You were asked a question about the NXP schematics that
20 you were shown and you said they said "stage," correct?

21 You said they said "cell."

22 **A.** I may have called it a cell.

23 **Q.** I believe you were asked, do the NXP documents use the
24 term "stage."

25 Do you recall that?

1 **A.** I recall that question.

2 **Q.** And what did you answer?

3 **A.** I think I called it by the name of the circuit module that
4 they put in the schematic. You -- the charge pump 14.

5 **Q.** Okay. So what is your best understanding as to whether
6 that schematic you looked at uses the word "stage" or not?
7 'Cause I'm trying to square with an answer you gave two
8 questions later.

9 **A.** Which schematic are we talking about?

10 **Q.** The individual charge pump stage cell.

11 **A.** Would you mind putting it up on screen so I can confirm,
12 since there's been a lot of schematics flying around.

13 **Q.** It's the pn_pmp14 -- I can get you the number if it's
14 really necessary. It was just a couple minutes ago.

15 (Pause in the proceedings.)

16 **MR. HENDERSHOT:** You know what? Let me see his
17 Demonstrative Slide 41 just really quickly.

18 Could we get control of the --

19 **THE CLERK:** Apologies.

20 **BY MR. HENDERSHOT:**

21 **Q.** You were asked some questions about the slide a moment
22 ago, right?

23 **A.** That's correct.

24 **Q.** And you've read this testimony, right? More than just
25 this question and answer, you've read Mr. Amtmann's testimony?

1 **A.** I did review his testimony.

2 **Q.** So this figure -- did you prepare these slides?

3 **A.** I did.

4 **Q.** Okay. The figure on the right is not what he's talking
5 about, right?

6 **A.** The figure on the right illustrates the MP3 node that he's
7 talking about.

8 **Q.** Where is that?

9 **A.** That's what he means by MP3.

10 **Q.** Draw it.

11 **A.** So I think -- it's this transistor. I don't know if you
12 can make out the label.

13 **Q.** Where is M6 in your figure that you're putting next to
14 this testimony that he's talking about?

15 **A.** I can't read the schematic 'cause the -- the words labeled
16 the way he's labeling them are too small.

17 **Q.** It's actually elsewhere on the circuit, isn't it? It's
18 not in your figure here.

19 **A.** So what is on the schematic -- and I'm trying to recall --
20 it's -- could be another transistor on the next stage or the
21 next -- excuse me -- the next section of circuitry.

22 **Q.** It was 'cause he was getting asked questions about a very
23 specific path and a very specific circumstance choosing a
24 starting point that you chose.

25 And that led to this answer, correct?

1 **A.** He's being asked to identify the flow of current through
2 these devices.

3 **Q.** Outside of this figure, in parts of the circuit outside of
4 this figure that you've included, right?

5 **A.** I believed he had access to the whole schematic.

6 **Q.** So did you when you prepared this.

7 Why didn't you include the part that he's talking about?

8 **A.** We can bring that up if we need to look at it.

9 **Q.** I'm not going to do that on my time, sir.

10 **MR. HENDERSHOT:** That's all I've got.

11 **THE COURT:** Any redirect limited to the scope of that
12 question?

13 **MS. McCULLOUGH:** No further questions, Your Honor.

14 **THE COURT:** Any need for recall?

15 **MS. McCULLOUGH:** He will be a rebuttal witness.

16 **THE COURT:** All right.

17 You may step down then.

18 Next witness?

19 **MR. TYLER:** Your Honor, Impinj calls Jeff Dossett.

20 **THE CLERK:** Please raise your right hand, sir.

21

22 **JEFFREY JOHN DOSSETT,**

23 called as a witness for the PLAINTIFF, having been duly sworn,
24 testified as follows:

25 **THE CLERK:** Please be seated and speak clearly into

1 the microphone.

2 Please state your full name and spell out your last name.

3 **THE WITNESS:** My name is Jeffrey John Dossett, and my
4 surname is spelled D-O-S-S-E-T-T.

5 **THE COURT:** Good afternoon, sir.

6 **THE CLERK:** Thank you.

7 **MR. TYLER:** Craig Tyler on behalf of Impinj.

8 May I proceed, Your Honor?

9 **THE COURT:** You may proceed.

10 **DIRECT EXAMINATION**

11 **BY MR. TYLER:**

12 **Q.** Good afternoon, barely.

13 Introduce yourself to the jury, please.

14 **A.** Again, my name is Jeff Dossett.

15 **Q.** And do you work for Impinj?

16 **A.** I do.

17 **Q.** And what's your role in Impinj?

18 **A.** My position and role is chief revenue officer.

19 **Q.** And can you describe for us what you do as a chief revenue
20 officer?

21 **A.** Yes, I -- I lead global sales, marketing and
22 communication, product management, and partner engagement and
23 development.

24 **Q.** Okay. So all the sales and marketing fall under you,
25 right?

1 A. That's correct.

2 Q. And we're not going to talk about rectifiers for a little
3 bit, okay? You all right with that?

4 A. I'm fine with that. Thank you.

5 Q. All right. We'll get a break from that. I think we're
6 running a little short on time so --

7 THE COURT: The fact that you're running short on
8 time does not mean you can speak faster.

9 BY MR. TYLER:

10 Q. So for about 20 minutes or so --

11 A. Thank you.

12 Q. -- we'll go through your testimony here.

13 And before we get into the sales and marketing, can you
14 give us a little bit of your background?

15 A. Sure.

16 Q. So where did you attend college?

17 A. I attended Western University in London, Ontario, Canada.

18 Q. And did you receive a degree from that university?

19 A. I did.

20 Q. And what was that degree?

21 A. Bachelor of Arts in honors business administration.

22 Q. And around when was that that you received that?

23 A. It was 1983.

24 Q. Okay. And did you -- what did you do after you got your
25 degree?

1 **A.** I was asked to join the faculty of the School of Business,
2 and I did so. And so I was a lecturer in the business school
3 in case study mode for about a year and a half.

4 **Q.** Okay. And so unlike some of the other Impinj witnesses
5 we've seen, you haven't been at Impinj all that long. So I'd
6 like you to give us a little bit of your background, other
7 companies you worked for prior to Impinj.

8 **A.** Sure. I'm -- this will date myself, but I'm actually
9 entering my 40th year working in the technology industry. And
10 following my time at the School of Business, I joined a
11 company called Anderson Consulting. It was involved in
12 information systems consulting, and I worked to design sort of
13 the democratization of mainframe computing into departmental
14 computing.

15 One of my clients at that time was Xerox in Canada. And
16 Xerox, if -- if you know them well, was an innovator in
17 graphical user interfaces and things like the mouse device
18 and -- and electronic pens, things we kind of take for granted
19 now. But I joined Xerox to help them commercialize, to help
20 bring that -- those innovations to market.

21 Actually, you'll -- the thread in my career is about
22 working with companies that are trying to change the way we
23 work and live.

24 And following Xerox, I joined Toshiba Information Systems
25 Group in Canada. And it was at the time in which Toshiba was

1 launching the laptop computer into the Canadian marketplace.
2 So the first sub-10-pound laptop computer or sub-6-pound
3 computer, the first hard drive in a laptop computer, and the
4 first thin film transistor color monitor in a -- in a -- in a
5 laptop. So very exciting time for changing the way people
6 work and -- and interface with technology.

7 **Q.** And then you spent some time at Microsoft?

8 **A.** Yeah, I spent in total about 15 years at Microsoft. I
9 started in Canada. I started -- I -- I led the sales
10 organization in Canada. That was 1991.

11 And by 1995, in advance of the launch of Windows '95, I
12 was president and general manager of Microsoft Canada as well
13 as president of the Canadian Alliance Against Software Theft.
14 And I worked in Canada until 1997, and then I was asked to
15 move to Microsoft's head office in Redmond, Washington, to
16 lead what then was known as the Internet customer unit.

17 So sort of the next phase in my career, the next big thing
18 is the role of the Internet and how it was going to change the
19 way we worked and how we consumed information. And I -- and I
20 stayed there through 2008.

21 **Q.** Okay. And then what brought you to Impinj?

22 **A.** Well, I had become in -- aware of Impinj in and around the
23 time it was preparing for its initial public offering, going
24 public as a company. And so there were articles that were
25 written in a local Seattle publication that covers technology

1 startups and innovators, and I read about Impinj's very bold
2 aspirational vision and mission to enable a digital life for
3 everyday items. And I was very intrigued because -- I was
4 researching a lot about the Internet of things, and Impinj
5 seemed well positioned to extend the Internet to literally
6 trillions of every -- everyday items. And so that caught my
7 attention.

8 Q. So around when was that?

9 A. That was in 2016, I believe.

10 Q. And then so you applied for employment?

11 A. Yeah, I ultimately applied early in 2017. And was
12 fortunate enough to be offered a position in May of 2017.

13 Q. And what was your role when you joined in 2017?

14 A. I joined as senior vice president of marketing and
15 business development.

16 Q. At some time when you were joining Impinj, did you learn
17 about NXP?

18 A. I did. Certainly in preparation for my interview loop at
19 Impinj, I consumed sort of all of the material that was
20 publicly available. And so I -- I did become aware of NXP at
21 that time.

22 Q. And did you understand that NXP and Impinj competed with
23 each other?

24 A. Yes, I understood that NXP and Impinj competed in the area
25 of endpoint IC or tag chips.

1 Q. We also have heard about Impinj's sales in the readers and
2 gateways and the platform Solution Space.

3 A. It was --

4 Q. Was that an area where Impinj competed with NXP?

5 A. No. In fact, that was one of the reasons why I joined
6 Impinj. I was quite taken by its -- its sort of a different
7 approach to the marketplace. That is, seeking to develop
8 and -- and bring to market a comprehensive RFID solutions
9 platform comprising readers, reader chips that we and others
10 could integrate or embed into their products and solutions to
11 add RFID reading capability. Solution software, ultimately
12 cloud services as well as endpoint ICs or tag chips.

13 Q. So when you joined in 2017 in the sales and marketing
14 group, had NXP just launched a new product?

15 A. Actually, I joined on -- I remember it well, Wednesday
16 May 3rd, 2017. And I spent a couple of days in the Seattle
17 head office, but then traveled to Phoenix for what was the --
18 and -- is a industry trade show called RFID Journal Live. And
19 it was at RFID Journal Live in Phoenix, I believe on May 9th,
20 that NXP announced UCODE 8.

21 Q. And so in your role in sales and marketing, was part of
22 that discussing with customers other chips in the market and
23 your chips?

24 A. Absolutely, and certainly throughout the -- that
25 particular trade show, following the announcement by NXP and

1 then in my role throughout the remainder of 2017 and '18 and
2 beyond.

3 **Q.** So in your experience when you just joined the company,
4 then, and then following in that year or so, what was the
5 industry reaction to the UCODE 8 chip?

6 **A.** Well, I can start like at the trade show, there was a, you
7 know, to some degree, a buzz related to the announcement, in
8 part related to the -- the -- the NXP UCODE 8 claim for read
9 sensitivity as an industry -- now industry-leading capability.

10 But also candidly, in many of the conversations that we
11 had with our customers and prospective partners, we -- we were
12 on the receiving end of a lot of questions about some of the
13 features that had been announced in UCODE 8 and -- and we were
14 asked to answer to or provide our perspective on those new
15 features.

16 **Q.** Was one of those features the read sensitivity gains in
17 the UCODE 8?

18 **A.** Definitely. So, again, at that time, and to our
19 understanding, it was a claim that was included in the press
20 release and in a presentation I recall taking place at
21 RFID Journal LIVE! And it at least nominally or on paper
22 indicated an improvement in read sensitivity relative to our
23 product in market at that time, Impinj Monza R6. And in the
24 presentation NXP made, they -- they make the claim it was now
25 an industry-leading read sensitivity.

1 Q. And had -- had they, in fact, closed the gap or even
2 exceeded your product?

3 A. At that point, it was -- it was a specification on paper.
4 But if you take it at face value, the read sensitivity, I
5 believe it was defined as minus 23 dB, if that matters, as
6 compared to Monza R6, which was minus 22 dB -- dBm. And
7 that -- that -- and that increase by the 1 dB was considered
8 an improvement or -- an evolution of read sensitivity.

9 Q. And -- and following the launch at the show, did you meet
10 with customers regarding UCODE 8 chip?

11 A. Yes. My -- my role as chief -- then as senior vice
12 president marketing and business development was to engage
13 with the partner ecosystem that supports RAIN RFID solutions
14 into end customers or end user enterprises. And so, yes, I
15 very frequently was meeting and engaging with customers.

16 Q. Can you give us some examples of some of the meetings that
17 stood -- that stand out to you from that time frame?

18 A. I -- I recall two meetings that I had with a company named
19 Smartrac. Smartrac at that time was an independent company
20 later acquired by Avery Dennison. But we had -- the reason I
21 raise it is because we had two meetings closely -- sort of
22 back-to-back, one in early June in Seattle, and then little
23 bit later, I think it was June 11th or 12th in their location
24 in Fletcher, North Carolina.

25 And that was -- we were meeting with -- or I was meeting

1 with two leaders or executives from Smartrac, one, the chief
2 revenue officer, Amir Mobayen, and another, Hal Hikita, who
3 was -- I believe his position was head of product management
4 at that time.

5 **Q.** And what was discussed in those meetings?

6 **A.** Well, that was a good example of where we were presented
7 with a set of questions and -- and perspectives on UCODE 8
8 versus our product, Impinj Monza R6. And they described -- if
9 I can share, they described their -- their perspective on the
10 features of that product UCODE 8 and -- and how it had closed
11 the gap with respect to Monza R6.

12 Why -- why that meeting stands out for me in particular is
13 because we talked about read sensitivity. We talked about
14 UCODE 8. I think it was still called auto adjustment at that
15 time before being renamed. As well as the -- the -- the
16 manufacturability of UCODE 8 as a result of the large pads and
17 the -- the way glue is channeled into those large pads. As
18 well as memory -- error correcting memory.

19 So what stood out for me is -- on several occasions in
20 describing UCODE 8, they actually used Impinj trademarked
21 feature names including AutoTune, Enduro, and Integra. And in
22 all three cases, I -- I sort of --

23 **MR. HENDERSHOT:** Your Honor, I have an objection.
24 This is hearsay. He's reciting what other people are telling
25 him.

1 **THE COURT:** For what purpose is it being offered?

2 **MR. TYLER:** It's for the -- for the purpose of the
3 discussion points that they had, not for whether -- not for
4 the fact of -- well, I mean, they're just discussing those
5 topics, and I think he can relate the topics that they were
6 discussed -- he was about and if he responded to.

7 **THE COURT:** Okay. Any response?

8 (Off-the-record discussion.)

9 **THE COURT:** I'm going to allow it, not for its truth,
10 but just for its effect on -- on the listener, which is the
11 witness here.

12 **BY MR. TYLER:**

13 **Q.** You can proceed.

14 **A.** So I -- maybe I could share what I was responsible for and
15 what I said. And so I -- interrupted and clarified that
16 those, in fact, were Impinj innovations that -- for which we
17 had intellectual property rights. We had patents on those, as
18 well as trademarked those trade names.

19 And so it was just an example of nature of the meetings
20 that I had during that timeframe in which our customers, inlay
21 manufacturers described the -- their perspective on the
22 comparison between UCODE 8 and Monza R6, to which I needed to
23 respond and clarify about our innovations and our leadership
24 and having brought those innovations to market two years
25 earlier and that our product was proven in the marketplace.

1 So in that regard, I was -- I was sharing our perspective
2 on -- our products versus UCODE 8.

3 Q. And so what were those four features again that you -- and
4 this was in more than one meeting, right?

5 A. Virtually every meeting we were in for sort of as long as
6 I can remember. In fact, still today, we would talk about
7 read sensitivity. We would talk about UCODE 8's auto
8 adjustment, I think later called auto adjust, later called
9 self adjust, versus or as compared to Impinj AutoTune. We
10 also talked about the manufacturability, and in this case, the
11 role of -- the large pads and the -- that -- sort of the chip
12 architecture, the channel architecture that helps bring glue
13 to those -- those large pads as well as -- and then finally,
14 the -- the error correcting -- error correction for memory,
15 which, in our case, was Integra.

16 Q. So was there frustration among your sales and marketing
17 group about the situation?

18 A. Very much so.

19 Q. Can you explain why?

20 A. I mean, we spent -- we spent an extraordinary amount of
21 time needing to answer to the comparison between the two
22 products. And I think the frustration came from the need to
23 rearticulate or emphasize again that in these particular
24 areas, these were Impinj innovations that we had brought to
25 market in Monza R6. And that, in fact, they were -- they were

1 protected by our patents. And so we were sort of re- --
2 reaffirming our leadership role in the market as an innovator.
3 And the fact that we had to spend so much time doing that was
4 a frustration. I mean, it was -- it was -- it was a feeling
5 that our innovation had been copied, and then we were being --
6 we were now competing against ourselves, if you -- if you will
7 and the innovation we'd brought to market a couple of years
8 earlier.

9 Q. So coming more fast forward here to present and looking
10 back at over the four or five years you've been competing
11 against NXP on the UCODE 8 and UCODE 9 product, you would
12 agree that those products have been successful in the
13 marketplace, right?

14 A. Yes.

15 Q. And in your experience in competing with those products,
16 what features do you believe were the primary drivers for that
17 success of UCODE 8 and UCODE 9?

18 A. I think primarily -- I mean, if -- if I had to prioritize
19 or articulate how it was prioritized to me in the meetings and
20 engagements I had, they -- they spoke first and foremost about
21 read sensitivity. And secondly, I think the most prevalent
22 topic was the -- large pads and the -- the channel
23 architecture.

24 Q. What about the AutoTune feature?

25 A. Again, it was almost all -- well, our AutoTune feature,

1 but it was -- you know, we had to speak to the comparison or
2 the narrowing of the gap, if you will, of the auto adjustment
3 that was included in UCODE 8.

4 **Q.** And the memory diagnostics, you mentioned Integra. Was
5 that also a driver of the success?

6 **A.** I believe it was. Certainly, it was a driver of success
7 as it related to Monza R6. You know, these people tag items
8 with a RAIN RFID-based IC to have some ability to read some
9 information from that item. And so the correct encoding of
10 that information onto the IC and its sort of permanence or
11 durability through the life of the tag is very important. So
12 it was also discussed.

13 **Q.** And did Impinj lose any opportunities, specific
14 opportunities, you can talk to us about based on its
15 competition with the UCODE 8?

16 **A.** Unfortunately, and certainly through the lens of my role
17 now as chief revenue officer, yes, many. I would call out
18 examples that I think were very influential.

19 The company Nike, the brand Nike, had made a decision to
20 tag all of its performance footwear and apparel, and we were
21 competing and positioning Monza R6 into that opportunity. And
22 for a short period of time, we actually were awarded or won
23 the performance footwear category of -- of tagging, whereas
24 NXP UCODE 8 had won the apparel. And each one of these were
25 estimated by Nike to be about 400 million units per year and

1 growing to over a billion units per year.

2 But we also -- ultimately lost both performance footwear
3 and performance apparel and have done so all the years after
4 that. I think the RFP was in second half of 2018, and the
5 award for 2019. And -- and we -- we've not won that back, and
6 it had a ripple effect. There were, you know, after -- after
7 that high profile loss --

8 Q. I'll get to that in a second --

9 (Simultaneous colloquy.)

10 Q. -- question.

11 In your experience, you've also competed against the
12 UCODE 7, right?

13 A. Correct.

14 Q. With the Nike situation, if you were competing against the
15 UCODE 7 and its smaller pads and other features, do you think
16 you would have kept that Nike business?

17 A. Yes, I believe that we would have at least earned the
18 market share that we had typically earned from -- for many
19 years, which is, you know, in the high 50s, 57, 58, 59 percent
20 of opportunity. Of course, our goal would have been to earn
21 more than that of the business. But I believe there's no
22 doubt we would have earned our fair and typical share of that
23 opportunity.

24 Q. And you started to talk about a ripple effect.

25 You said the Nike, the situation, kind of a watershed

1 moment for you?

2 **A.** Yeah, I view it as a watershed moment. It was the
3 beginning of a -- a precipitous decline in our win rate and
4 ultimately our market share.

5 So other -- so the -- the -- the inlay manufacturers and
6 their -- their -- their customers, their partners, the service
7 bureaus who had designed that solution for Nike, then took it
8 into all of the other performance footwear and apparel like
9 Under Armour and Adidas and into large retail opportunities
10 like Target and -- and Walmart. And -- and we -- we -- we
11 lost a significant number of those opportunities in whole, and
12 in some cases, lost the majority of that and -- and retained
13 some of the business.

14 So for me, it was a watershed moment.

15 **Q.** And we're talking about some of the end customers, now,
16 like Nike and Walmart, but what about your specific customers?
17 Like, we've heard a lot about Avery Dennison.

18 Did the UCODE 8 impact your position with Avery Dennison?

19 **A.** Yes, very much so. So the -- with the introduction of
20 UCODE 8 and its capabilities, the -- our customers, the inlay
21 manufacturers like Avery Dennison, like Smartrac, and others
22 had made the decision that there was a closing of the
23 competitive advantage with respect to Monza R6. They
24 developed tagging solutions like the one they offered into
25 Nike.

1 And there's lots of reasons for an inlay manufacturer
2 to -- to -- for economies of scale. Like, once they -- they
3 find a winning solution, they want to do more of it. It means
4 they don't have to reconfigure or set up their machines over
5 and over again. And they started to gain some economies of
6 scale. And so very clearly, they -- they had put more
7 emphasis on bringing that solution to market.

8 And as a result, we lost share as measured of -- in our
9 customers, the inlay manufacturers.

10 Q. Did the -- did the UCODE 8 have any impact on your
11 capacity allocation from suppliers like TSMC?

12 A. I think it's -- yes, it did.

13 Q. Explain that to us.

14 A. So our -- our wafer vendor or provider makes allocation
15 to -- decisions each year in part based upon the wafer
16 consumption of the prior year. And so as I just described,
17 following the launch of UCODE 8 and the significant loss in
18 market share, it -- disadvantaged us in the -- the dialogue
19 with TSMC for our allocation for the following year. And that
20 too had a ripple effect that was measured in multiple years.

21 Q. And did you have to drop your pricing on the Monza R6
22 because of UCODE 8?

23 A. We did, not -- not immediately. But we immediately were
24 faced with input from our inlay partners that -- that UCODE 8
25 was priced below our offering. And I would say we resisted it

1 for a while because we -- for a variety of reasons. We felt
2 we had an industry leading product that the proven in the
3 marketplace for more than two years at that point.

4 And having spent a lot in research and development -- it's
5 measured in a number of years, four or five years, and -- and
6 tens of millions of dollars. It was our responsibility to go
7 position our product in the marketplace as a premium product
8 and seek a premium price for that product.

9 But as I mentioned, in the losses that we were -- that I
10 described, in many cases, we learned through our customers,
11 the inlay partners, that UCODE 8 was priced below. And it was
12 one of factors that they were making in determining whether to
13 use our tag chip or UCODE 8.

14 So we -- we were getting less per unit. But which --
15 which ultimately impacted our ability to recoup the investment
16 that we had made in -- in that technology.

17 Q. Now, you mentioned -- well, we mentioned pricing
18 information.

19 Impinj considers its pricing information to be
20 confidential, right?

21 A. Absolutely.

22 Q. And you expect that NXP would consider its pricing
23 information to be confidential as well, right?

24 A. Yes, I would.

25 Q. Then how were you given pricing information about NXP's

1 product?

2 **A.** Well, in the -- in the context of negotiations, trying to
3 earn the opportunity for those deployments, we would work with
4 our inlay partners. And, of course, we would answer to our
5 technical leadership versus -- or the comparison between our
6 product and their product. But the inlay manufacturers would
7 inevitably bring up the issue of price and say, well, you
8 know, we now think of these kind of the same. You know, that
9 competitive advantage is gone, but their price is below yours.
10 So if you don't respond, you're going to lose when those two
11 are -- are considered.

12 **Q.** So you don't know -- the pricing information you were
13 provided by your customers, you don't know whether that's
14 accurate or not, right?

15 **A.** No, we can't know. But in the context of negotiation, we
16 would offer, you know, on the merits of our -- our solution,
17 our technology, what we felt it -- it ought to be valued at in
18 terms of its price. And then we would receive feedback, and
19 that feedback was -- was sometimes general, like, your --
20 you're not in the zone from a pricing perspective or in some
21 cases, you're -- you're this much, in this range, of being
22 above the other offering. And so we would -- we would -- we
23 would decide whether we wanted to engage on price. And having
24 lost the number of opportunities that we had following the
25 introduction of UCODE 8, we did have to lower our pricing --

1 Q. I don't want to devalue this -- this technology at all
2 because we talked about -- we heard about how amazing and
3 magical it is. But it did shock me one time when I -- when I
4 found out how much you sell these chips for.

5 Can you tell us?

6 A. Yes, it's -- I'm still -- six years in, I'm still getting
7 used to the fact that the majority of my time and my team's
8 are negotiating in sort of a micro sense, that is three or
9 four digits to the right of a decimal point. So it's -- it's
10 pennies and often a -- a penny plus or minus, you know, a
11 thousandth of a penny or two or three. And so ultimately,
12 yeah, we negotiate in four -- often in four decimal place --
13 or four digits to the right of a decimal place.

14 Q. So when you're told you're a little bit lower -- and
15 that's reflected in document somewhere -- it might show up as
16 a fraction of a penny?

17 A. Yes, it could be zero dot, or decimal point, 00175.
18 And -- and we'd be told, well, you're not competitive. And we
19 would -- we would try a decimal place 00173. Are we in the
20 zone now?

21 So, yeah, that's the nature of business that we're in and
22 proudly so. We're the most, you know, inexpensive
23 connectivity solution. That's how we're going to connect to
24 everything eventually.

25 Q. All right. Thank you, Mr. Dossett.

1 **MR. TYLER:** That's all the questions I have right
2 now, Your Honor.

3 **THE COURT:** All right. Cross.

4 **CROSS-EXAMINATION**

5 **MR. MICHALIK:** Good afternoon, Your Honor.
6 John Michalik on behalf of NXP.

7 **THE COURT:** Good afternoon. You may --

8 **MR. MICHALIK:** Can I give the witness some binders?

9 **THE COURT:** Yes. And you may proceed when you're
10 ready.

11 (Off-the-record discussion.)

12 **THE COURT:** And then are you -- deposition
13 transcript?

14 **MR. MICHALIK:** I don't expect to use it, but I'll
15 have it handy if I need it.

16 **THE COURT:** Okay.

17 **MR. MICHALIK:** May I approach the witness, Your
18 Honor?

19 **THE WITNESS:** I'm glad I brought my glasses, my other
20 glasses.

21 **BY MR. MICHALIK:**

22 **Q.** Good afternoon, Mr. Dossett. We've not met before. I'm
23 John Michalik, and I represent NXP in this matter.

24 **A.** Good to meet you.

25 **Q.** As you said on your direct examination, Impinj sells

1 endpoint ICs, correct?

2 **A.** That is correct.

3 **Q.** And you talked about a number of features that are
4 implicated or involved in those products.

5 And you mentioned, I think, most prominently AutoTune, for
6 example, on your direct examination, correct?

7 **A.** It was included in the list. AutoTune is an important
8 innovation that we brought to market.

9 **Q.** Right. In your -- in your examination, however, you
10 didn't tie any of those features you were discussing to any of
11 the specific patents involved in this particular litigation,
12 did you?

13 **A.** I'm sure there's been lots of technical testimony in this
14 regard, but I did speak to four features, read sensitivity,
15 the -- as defined by us; our innovation, AutoTune; our large
16 pads, the Enduro pads that are patented; as well as Integra.

17 **Q.** I just wanted to confirm you don't have any view on which
18 patent those issues -- those features are related to, if any?

19 **A.** I have an understanding that has been shared with me
20 throughout the time UCODE 8 has been in -- in market. And so
21 I feel generally aware of, but I'm not a silicon engineer.
22 And any -- my background is business, but I -- I trust and
23 respect the inputs that I've received from our engineering and
24 legal inputs. And I do believe that more than -- two or more
25 of those features are directly related to patents that are in

1 front of the Court and the jury.

2 Q. Well, we'll -- we'll examine that separately.

3 You mentioned the endpoint ICs you sell.

4 You sell directly to your inlay partners, correct?

5 A. Yes. Inlay manufacturers are our primary customer for
6 endpoint IC.

7 Q. And your inlay part- -- for your inlay partners,
8 availability of supply is one factor they take into account in
9 determining their ordering practices, correct?

10 A. I -- I would anticipate that that is one of factors is
11 they're trying to service the end -- their end customer need,
12 the availability of products that meet the customer's need as
13 one factor.

14 Q. And with respect to supply, you're familiar with the term
15 "second sourcing"?

16 A. I am.

17 Q. And generally speaking, second sourcing refers to having
18 two supply sources for a product, correct?

19 A. That -- that's within my general understanding of that
20 term. Yes.

21 Q. Avery Dennison, you mentioned in your direct examination.
22 That's one of your inlay partners, correct?

23 A. That's correct.

24 Q. One of your largest inlay partners?

25 A. One of our largest.

1 **MR. MICHALIK:** Can we pull up Exhibit 1036,
2 Your Honor? I understand prior in this submission we made in
3 advance of trial, that's a stipulated.

4 **THE COURT:** Okay.

5 **MR. TYLER:** No objection, Your Honor.

6 **THE COURT:** All right. It's admitted. 1036.

7 (Trial Exhibit 1036 received in evidence)

8 **MR. MICHALIK:** I'd move for admission. Thank you.

9 (Exhibit published.)

10 **BY MR. MICHALIK:**

11 **Q.** Mr. Dossett, have you seen this document before?

12 **A.** This is the Third Quarter 2017 Monza Summit. Yes, I
13 certainly recognize the title page here.

14 **Q.** And these are meetings attended by Impinj's executive
15 team?

16 **A.** Yes, generally.

17 **MR. MICHALIK:** Let's turn to Slide 27, please,
18 Mr. Lewis.

19 (Exhibit published.)

20 **BY MR. MICHALIK:**

21 **Q.** See the title of the slide is "Avery Overall Strategy,"
22 correct?

23 **A.** I do.

24 **Q.** Do you see the heading on the top left-hand side, "Overall
25 Status?"

1 **A.** I do.

2 **Q.** The last bullet under that heading states, "Avery will
3 balance share to keep both NXP and PI viable," correct?

4 **A.** I see that.

5 **Q.** And PI is reference to Impinj?

6 **A.** That's correct.

7 **Q.** That's your stock ticker, I believe?

8 **A.** That's correct.

9 **Q.** So that comment is recognizing that Avery intended to
10 follow a second sourcing policy?

11 **A.** I -- you know, I don't know the context entirely, and this
12 would have been a slide with bullets prepared by the -- the
13 sales representative responsible for this account. And so
14 there was some discussion about the -- the share and viability
15 of NXP and Impinj.

16 **Q.** Let's turn to another topic.

17 Impinj contends in this case that it has lost market share
18 as you said in your direct examination --

19 **A.** Yes.

20 **Q.** -- to UCODE 8 and UCODE 9, correct?

21 **A.** Correct.

22 **Q.** But Impinj had experienced share loss to NXP even prior to
23 the introduction of UCODE 8 into the market, correct?

24 **A.** No. Respectfully, that's not my understanding.

25 **MR. MICHALIK:** Turns out, Your Honor, we are going

1 the need the deposition. I'll hand it to you momentarily.

2 **THE COURT:** Okay.

3 (Pause in the proceedings.)

4 **MR. MICHALIK:** Your Honor, Page 177, line 21 to
5 Page 178, line 4.

6 **MR. TYLER:** I'm sorry, which deposition?

7 **MR. MICHALIK:** Northern District California.

8 **THE COURT:** Okay. Proceed.

9 **BY MR. MICHALIK:**

10 **Q.** Mr. Dossett, you were deposed in this case?

11 **A.** I was.

12 **Q.** Under oath?

13 **A.** I was.

14 **Q.** Same oath you took here today?

15 **A.** Yes.

16 **Q.** And in your deposition in this case, you were asked the
17 question, "Prior to the launch of UCODE 8, Impinj had lost
18 substantial market share to NXP in the RAIN RFID IC space, had
19 it not?"

20 And you answered during your deposition, "Impinj had
21 experienced some share loss prior to the introduction of
22 UCODE 8, but that share loss accelerated as the competitive
23 differentiation between Impinj's patented innovation narrowed
24 to UCODE 8 we believe as a direct result of Impinj -- of
25 NXP -- excuse me -- copying Impinj."

1 That was the answer you gave, correct?

2 A. Yes.

3 Q. Okay.

4 MR. MICHALIK: Turn to Slide 21 of Exhibit 1036.

5 (Exhibit published.)

6 BY MR. MICHALIK:

7 Q. This title is -- this slide is titled "SY," correct?

8 A. It is.

9 Q. And SY is another Impinj customer?

10 A. It is or was at the time of this -- this Monza summit.

11 Q. Do you see the heading "Overall Status" again?

12 A. I do.

13 Q. The first bullet under "Overall Status" says, "SY was more
14 aligned with NXP due to a large portion their business are
15 HF," correct?

16 A. I -- I'm reading that line, yes.

17 Q. And "HF" refers to high frequency?

18 A. I assume in this context, it does.

19 Q. And Impinj does not sell high frequency products, correct?

20 A. That's correct.

21 Q. It only sells UHF trips -- chips, correct?

22 A. That is correct.

23 MR. MICHALIK: Turn to Slide 30, please.

24 (Demonstrative published.)

25

1 BY MR. MICHALIK:

2 Q. This slide is titled "SML," correct?

3 A. Yes, it is.

4 Q. Again, do you see the heading "Overall Status"?

5 A. I do.

6 Q. The first bullet under that a heading reads, "No
7 preference for Impinj versus NXP. Just select based on lower
8 price and availability." Correct?

9 A. Yes, and I understand the context of that. That --

10 Q. I didn't ask you about the context. I just asked you if
11 that's what the slide said.

12 A. That's what the words are that I'm reading on the slide.

13 Q. Okay. And the next bullet states that during an M6
14 shortage, SML only qualified U7 for new projects, correct?

15 A. Yes.

16 Q. And M6 refers to Monza R6?

17 A. I'm assuming in the context it does.

18 Q. All right. We'll switch topics again here, so we can
19 finish up in time, here, for everybody's weekend.

20 Over time, Impinj has had problems with supply, hasn't it?

21 A. I think the industry has experienced periods of wafer
22 supply constraint that all -- all providers of endpoint ICs
23 have experienced.

24 Q. So it's fair to say between 2013 and today there have been
25 periods of time when Impinj could not fully meet demand for

1 endpoint ICs in the marketplace, correct?

2 **A.** Impinj and other providers of endpoint ICs. There have
3 been variability in supply. But, again, my understanding of
4 market share, during that time, it didn't result in a loss of
5 market share.

6 **Q.** One of those periods of time during which you had a --
7 some supply issues began in 2020 and has continued on since
8 then?

9 **A.** There have been times in which we would define the
10 opportunity or demand was greater than our current
11 availability. But that's about timing and pacing of supply
12 and demand.

13 **MR. MICHALIK:** Let's pull up Exhibit 1046, please,
14 Mr. Lewis.

15 I understand this is admitted -- stipulated to
16 admissibility, Your Honor.

17 **THE COURT:** Okay.

18 **MR. TYLER:** No objection.

19 **THE COURT:** It's admitted.

20 **MR. MICHALIK:** Move for submission, Your Honor.

21 **THE COURT:** Admitted.

22 (Trial Exhibit 1046 received in evidence)

23 **BY MR. MICHALIK:**

24 **Q.** This is another endpoint IC summit document, correct,
25 Mr. Dossett?

1 **A.** Yes, it is.

2 **Q.** Similar to the Monza summit document -- I think it had a
3 different name prior to this, but it's similar to the document
4 we just looked at in that regard, correct?

5 **A.** This is a quarterly business review, yes.

6 **Q.** And this one is from the Second Quarter 2021?

7 **A.** Yes, it is.

8 **MR. MICHALIK:** Turn to Slide 6, please.

9 (Demonstrative published.)

10 **BY MR. MICHALIK:**

11 **Q.** This slide is titled "1Q21 Endpoint IC Business Summary,"
12 correct?

13 **A.** Yes, it is.

14 **Q.** Do you see the second bullet "1Q21 Customers"?

15 **A.** I do.

16 **Q.** Under that bullet, there is a sub-bullet for SML.

17 See that?

18 **A.** I do.

19 **Q.** And the SML entry states "Starting to panic about supply,
20 moving forward quickly with U9, not prepared for upcoming PI
21 R6/P shortage," correct?

22 **A.** Those are the words. I'm just consuming them to try to
23 remember the context.

24 **Q.** Further down -- that PI is a reference to Impinj?

25 **A.** Yes, it is.

1 Q. Further down that same slide, still Slide 6, there's
2 another bullet, "Market."

3 Do you see that?

4 A. I do.

5 Q. And the third entry under "Market" is for -- is for
6 "Impinj Endpoint ICs."

7 Do you see that?

8 A. I do.

9 Q. That entry reads "Impinj supply visibility to partners is
10 worse than NXP (allocation, order confirmations, shipments)," correct?
11

12 A. Those are the words that are -- are on the slide, yes.

13 MR. MICHALIK: Turn to Slide 8.

14 (Demonstrative published.)

15 BY MR. MICHALIK:

16 Q. This slide is titled "Endpoint IC IQ21 Partner Inventory," correct?
17

18 A. Yes, it is.

19 Q. Do you see the heading at the bottom left that states
20 "Overall partner inventory is unhealthy"?

21 A. I do.

22 Q. And under that heading the slide states "Monza 4 and M700
23 are in worst supply," correct?

24 A. Yes.

25 Q. And it also states "M5 and R6-B are running out," correct?

1 **A.** It does say that, yes.

2 **Q.** And M5 is a reference to Monza 5?

3 **A.** Yes, it is.

4 **Q.** And R6 a reference to Monza R6?

5 **A.** Yes, it is.

6 **MR. MICHALIK:** Turn to slide 11, please.

7 (Demonstrative published.)

8 **BY MR. MICHALIK:**

9 **Q.** Under the -- under the heading of that -- or the title of
10 that slide, there is a heading that reads "2Q21 Goal Report,"
11 correct?

12 **A.** Yes.

13 **Q.** Do you see the chart below that, there's a column at the
14 far right-hand side titled "Commentary"?

15 **A.** I see that.

16 **Q.** And the first row, which status red, reads "Unprecedented
17 multi-industry semiconductor allocation leaving little
18 flexibility in PI supply chain."

19 That's what it says?

20 **A.** That is what it says.

21 **Q.** And PI is again a reference to Impinj?

22 **A.** Yes.

23 **Q.** And the entry below that, with the yellow status, states
24 "Market leading partner AD is losing confidence in Impinj
25 ability to bring M700 to market with quality," correct?

1 **A.** It does say that and --

2 (Simultaneous colloquy.)

3 **THE COURT:** One at time. Stop.

4 You do not answer until there's a question.

5 And you do not ask another question until he finishes his
6 answer.

7 **MR. MICHALIK:** Understood, Your Honor.

8 **THE WITNESS:** Thank you, Your Honor.

9 **THE COURT:** What's the question?

10 **BY MR. MICHALIK:**

11 **Q.** I asked him if the slide reads, "Market leader partner AD
12 is losing confidence in Impinj ability to bring M700 to market
13 with quality."

14 Is that what the slide says?

15 **A.** That is what the slide says.

16 **Q.** And the reference to AD in that entry is Avery Dennison,
17 correct?

18 **A.** I presume it is, yes.

19 **MR. MICHALIK:** Turn to Slide 33, please.

20 (Demonstrative published.)

21 **BY MR. MICHALIK:**

22 **Q.** This slide is titled "ECS-2Q21," correct?

23 **A.** Yes, it is.

24 **Q.** Do you see the heading "Overall Status"?

25 **A.** I do.

1 Q. The last bullet under that heading states "Customers are
2 struggling, business impacted due to shortage in M4, R6P,
3 M700," correct?

4 A. That is what it says, correct.

5 Q. And the shortage in M4 -- strike that.

6 M4 is a reference to Monza 4?

7 A. I believe it is.

8 Q. And the reference to R6P is Monza R6 P?

9 A. Yes, it is.

10 Q. Okay. We're almost done with this exhibit.

11 MR. MICHALIK: Let's turn back one slide to Slide 32.

12 (Demonstrative published.)

13 BY MR. MICHALIK:

14 Q. This slide is titled "BoingTech," correct?

15 A. Yes, it is.

16 Q. Did I pronounce it correctly? Is it BoingTech?

17 A. Yes, you pronounced it correctly.

18 Q. Thank you.

19 There's another bullet titled "Overall Status" again.

20 Do you see that?

21 A. I do.

22 Q. The last heading under "Overall Status" states "No supply
23 issues with NXP," correct?

24 A. It does say that, yes.

25 Q. Okay. Last exhibit I think.

1 **MR. MICHALIK:** Exhibit 1047, which, Your Honor, I
2 think is stipulated to admissibility.

3 **MR. TYLER:** No objection, Your Honor.

4 **MR. MICHALIK:** I move for admission.

5 **THE COURT:** 1047 is admitted.

6 (Trial Exhibit 1047 received in evidence)

7 (Exhibit published.)

8 **BY MR. MICHALIK:**

9 **Q.** Exhibit 1047 is another endpoint IC summit, this time from
10 Q3 2021, correct?

11 **A.** Yes, it is.

12 **Q.** Just a couple questions on this exhibit.

13 **MR. MICHALIK:** First turn to Slide 9, please.

14 (Demonstrative published.)

15 **BY MR. MICHALIK:**

16 **Q.** The title of this slide is "Endpoint IC 2Q21 Partner
17 Inventory," correct?

18 **A.** Yes, it is.

19 **Q.** And the heading -- there's a heading at the top right that
20 reads "Overall partner inventory is too low"?

21 **A.** I see it.

22 **Q.** And there's an entry under that heading. It reads "AD
23 reduced inventory."

24 Do you see that?

25 **A.** I do.

1 Q. That AD is a reference again to Avery Dennison?

2 A. Yes.

3 Q. And then under that bullet, there is a sub-bullet that
4 states "AD is forecasting to be dry on R6/R6P inventory end of
5 3Q," correct?

6 A. Yes, that's correct. That's what it says.

7 Q. That R6 is a reference to Monza R6?

8 A. Yes, it is.

9 Q. Okay.

10 MR. MICHALIK: Turn back to Slide 7, please.

11 (Demonstrative published.)

12 BY MR. MICHALIK:

13 Q. This slide is titled "2Q21 Endpoint IC Business Summary,"
14 correct?

15 A. Yes, it is.

16 Q. Do you see the second bullet heading, "2Q21 Customers"?

17 A. I do.

18 Q. Fifth entry down we see SML again, correct?

19 A. Yes, I see that.

20 Q. And the slide states "SML is aligned with NXP on U9 and
21 panicking about PI supply," correct?

22 A. Yes, that's what it says.

23 Q. And that PI again is a reference to Impinj?

24 A. I believe it is.

25 Q. And then further down the page, there's a heading at the

1 bottom.

2 The last main bullet reads "Competition," correct?

3 A. Yes, it does.

4 Q. The first bullet under that "Competition" heading is for
5 NXP U9, correct?

6 A. Yes, it is.

7 Q. That bullets starts with a reference to AD.

8 Is that Avery Dennison again?

9 A. I presume so in this context.

10 Q. And the bullets states "AD shifted prod dev focus, U9 at
11 M700 levels and Q2Q21," correct?

12 A. Yes, those are the words.

13 Q. And the last part of that, "NXP: U9" bullet states "U9 is
14 poised to save the day," correct?

15 A. Yes, those are the words.

16 MR. MICHALIK: I have no further questions.

17 THE COURT: Redirect limited to the scope of cross.

18 MR. TYLER: Thank you, Your Honor.

19 May I proceed?

20 THE COURT: You may.

21 **REDIRECT EXAMINATION**

22 BY MR. TYLER:

23 Q. So Mr. Dossett -- we're getting out of here on time.

24 You were shown several slides. You weren't asked to
25 explain anything about those slides.

1 You were just asked to read, right?

2 **A.** That's correct.

3 **Q.** I think during your direct you talked about the fact that
4 capacity was impacted by your market share loss, right?

5 **A.** That's correct.

6 **Q.** Can you explain how -- well, I'll ask it this way.

7 How, in your experience, did loss of market share impact
8 your capacity and your supply?

9 **A.** It's my understanding that our wafer supplier, TSMC, takes
10 into account our wafer consumption in a given period of time
11 in considering the wafer allocation in a future period. And
12 so in that regard, I believe it makes a difference. So as
13 our -- as we lost market share, therefore, consumed fewer
14 wafers, that -- that baseline was lower as a result of that
15 loss of market share, and therefore, that input into the
16 allocation decision that TSMC makes was lower. And as a
17 result, we believe, strongly, that it resulted in us receiving
18 an allocation of fewer wafers in a subsequent period.

19 **Q.** So if you would have maintained a higher market share,
20 would those supply issues have been as difficult as they were?

21 **A.** I do not believe so.

22 **MR. MICHALIK:** Objection --

23 **THE COURT:** Overruled.

24 **MR. TYLER:** Thank you, Your Honor. That's all the
25 questions I have.

1 **THE COURT:** Anything on that question or set of
2 questions?

3 **MR. MICHALIK:** No, Your Honor.

4 **THE COURT:** Okay.

5 You may step down.

6 **THE WITNESS:** Thank you.

7 **THE COURT:** Do you have any more witnesses for today?

8 **MR. AL-SALAM:** Your Honor, we have some more
9 deposition testimony to play. I think one of them is quite
10 short.

11 **THE COURT:** All right. Let's do it.

12 **MR. AL-SALAM:** I don't know if that's within the --

13 **THE COURT:** We have five minutes.

14 Do you have something within five minutes?

15 (Off-the-record discussion.)

16 **MR. AL-SALAM:** Okay.

17 This will be the testimony of Drew Dannels, an Impinj
18 employee.

19 **THE COURT:** Okay. Thank you.

20 (Video deposition of John Andrew Dannels was played.)

21 **MR. AL-SALAM:** Your Honor, this -- I understand this
22 was on yesterday's list. We offer Exhibit 224.

23 **THE COURT:** All right.

24 It will be admitted assuming there's no objection.

25 **MR. HENDERSHOT:** No objection, Your Honor.

1 **THE COURT:** Okay.

2 It's admitted.

3 (Trial Exhibit 224 received in evidence)

4 **THE COURT:** All right.

5 Let me -- before I release you and -- Edwin's got some
6 more information for you all. But just a reminder before we
7 go. One, we're not in session on Monday, so don't come on
8 Monday. You'll come back on Tuesday.

9 Let me just tell you how we are in terms of schedule.
10 Tuesday, we'll have our normal day. Wednesday, make plans to
11 stay a little longer because the whole case will be submitted
12 to you by Wednesday. So we'll -- we'll have lunch for you
13 because we'll take a little bit of a lunch so that you can
14 hear all the closing arguments, and then you can pick a
15 foreperson. But it will take basically maybe an extra hour or
16 so more than normally. So on Wednesday, plan to stay a bit
17 later.

18 Then you'll have the case and you can deliberate all day
19 Thursday and all day Friday. And if you need more time, we'll
20 talk about it. But that's -- that's what the plan is.

21 Does anybody have questions about the schedule?

22 Okay. A reminder then not to communicate with anyone in
23 any way about anything to do with this case, electronically or
24 otherwise.

25 Do not talk to even each other about the evidence yet.

1 You still have to hear more evidence. I have to give you
2 instructions. You have to hear argument.

3 Do not do any research.

4 Do not look at any media or any news reports about the
5 case.

6 And I hope you have a wonderful weekend. I hope we get
7 some sun, get some vitamin D. And if you have no questions,
8 Mr. Cuenco will take you back. And we're in recess with the
9 jury until Tuesday morning, same time, okay?

10 Thank you.

11 (The following proceedings were heard out of the presence
12 of the jury:)

13 **THE COURT:** Yes, okay. We have a number of things to
14 take care of.

15 First of all, if I can get -- everyone else can be seated.
16 If I can get the lead lawyers at the mics, please.

17 We had a sidebar before the second session. Start with
18 you, Mr. Henderson (sic), in terms of anything you want to put
19 on the record. I have some additional thoughts myself.

20 **MR. HENDERSHOT:** Okay.

21 Mike Hendershot, from Jones Day for NXP.

22 There was a report from the Court to NXP that counsel for
23 Impinj had communications with a member of the courtroom staff
24 about a potential job interview or offer. Apparently after
25 there was some discussion about the member of the courtroom

1 staff potentially entering the job market, according to Impinj
2 counseling.

3 NXP is uncomfortable with any such communications. I've
4 not heard of them during a trial ever in my career. I
5 understand the Court's guidance about what it's willing to do
6 and not to now.

7 **THE COURT:** Well, I also need you to make a record
8 about what you're asking me to do. And -- and let me also say
9 it was not Mr. Al-Salam --

10 **MR. AL-SALAM:** Thank you.

11 **THE COURT:** -- and I'll have more to say about that.

12 Two, I did advise you of it yesterday as soon as -- as
13 soon as I learned.

14 **MR. HENDERSHOT:** And if I could -- I don't want to
15 cut you off, Your Honor, but I do want to make clear before
16 you get to it. We're not suggesting any -- anyone associated
17 with the Court did anything improper or solicited anything in
18 connection with this.

19 But we do view the communication in the other direction as
20 improper. And we -- we think it supports a mistrial. I
21 understand you're not going to grant that, but I'm making that
22 for the record in case we need to argue it later, particularly
23 in view of the continued participation of the attorney
24 involved in the trial in front of the jury thereafter.

25 **THE COURT:** Okay. So what would be the basis for a

1 request for a mistrial? I did tell you at sidebar because we
2 only had a few minutes --

3 **MR. HENDERSHOT:** Yeah.

4 **THE COURT:** -- that I wasn't going to grant a
5 mistrial, and I have reasons for that as well, but make your
6 record.

7 On what basis do you think a mistrial is warranted?

8 **MR. HENDERSHOT:** Candidly, Your Honor, I expected to
9 be able to make this record after doing some research. I've
10 not done it since we spoke. I'm not prepared to offer you
11 case law or authority on that. I could do it early next week.
12 I think the communication was improper.

13 **THE COURT:** But how does it impact -- as you stand
14 here right now, how does it impact the merits of this trial?

15 **MR. HENDERSHOT:** Your Honor, there is a member of the
16 courtroom staff who I believe will have input in the process
17 on any posttrial motions or things like that and the conduct
18 of the case.

19 **THE COURT:** But that person -- and, again, you know,
20 to make sure the record's correct, it is a law clerk.

21 **MR. HENDERSHOT:** Okay.

22 **THE COURT:** That person has no impact on what the
23 jury will decide. And that's the reason why, one, I think a
24 mistrial is not warranted.

25 Second, now that I know, Impinj, whose lawyers were the

1 ones who acted in a way that was in my view entirely
2 inappropriate, you know, it -- if anybody should be worried,
3 it's them. I'm not going to hold it against the company. I'm
4 not going to hold it against the client. I am going to
5 address the -- the misconduct.

6 But I don't think that with respect to the merits of this
7 case, that that's impacted in any way. Not in terms of -- the
8 jury doesn't know, it -- it's not going to affect anything
9 that I have to say personally with respect to the law, and so
10 I don't think that a mistrial is warranted.

11 So the request is denied.

12 Are you asking for any other relief?

13 **MR. HENDERSHOT:** At this point, no, Your Honor.

14 **THE COURT:** All right.

15 Mr. Al-Salam?

16 **MR. AL-SALAM:** Your Honor, I think -- only few things
17 I can say. We apologize and we regret it. And if it helps, I
18 mean, I guess the only prejudice would be the implication that
19 the law clerk would be -- would be somehow favorably aligned
20 with us. We could commit not to employ him. I mean, I don't
21 want to hurt his opportunities, but I'm sure he has other
22 opportunities. And if that -- if that helps, we could commit
23 that we will not employ him. And so, therefore, that would
24 presumably eliminate any perception of favoritism towards us.

25 **THE COURT:** That law clerk doesn't have any -- any

1 current interviews with Perkins Coie, is certainly not going
2 to have any contact with Perkins Coie during the course of
3 trial. I haven't asked him about the future, but the answer
4 right now is there's going to be zero communication.

5 This is what I am -- I do want to say -- are you finished?

6 **MR. AL-SALAM:** Yes, I am, Your Honor.

7 **THE COURT:** All right.

8 I do want to say a couple more things.

9 One is that -- as I said at sidebar, that kind of conduct
10 and -- no lawyer should ever reach out to a law clerk of a
11 judge during trial and suggest that at some point, you know,
12 contact him, they want a job and give them a business card.
13 It is so inappropriate that -- it's -- it's shocking to me
14 that I actually have to say anything about this.

15 At sidebar, it was suggested that this kind of thing
16 happens in other jurisdictions. I can tell you the following:
17 I have sent an email to all of my colleagues; that is, my
18 district court colleagues, already asking them if they have
19 ever heard of this ever happening in any kind of case
20 whatsoever. I have heard from many of them and none of them
21 believe that they have ever seen this happening, and they all
22 agree with me that it is inappropriate.

23 So to the extent that anyone thinks that it's not in the
24 Northern District of California, it is inappropriate and it
25 should never happen.

1 I then reached out to the chief judge of -- of one of
2 Texas primary courts in -- and who -- with whom I am friends.
3 And he told me that he has never heard of that happening and
4 that he agrees it is inappropriate conduct.

5 So I don't know what people think it's okay, but it is
6 not. And that lawyer -- and you -- the lawyer is ordered to
7 send an email to all lawyers at Perkins Coie, all litigators,
8 to advise all litigators at Perkins Coie what that person --
9 that lawyer did and to tell them that I said it was
10 inappropriate and it should never happen, certainly not in the
11 Northern District of California.

12 That lawyer shall send to me and copy counsel a copy of
13 that email to my email so that I can verify that it happened,
14 and it shall happen no later than Sunday at noon.

15 **MR. AL-SALAM:** Understood, Your Honor.

16 **THE COURT:** If it doesn't happen, I will take further
17 steps.

18 That's where I stand at this point.

19 **MR. HENDERSHOT:** Thank you, Your Honor.

20 **MR. AL-SALAM:** Thank you, Your Honor.

21 **THE COURT:** Okay. We have a couple of other things
22 to talk about.

23 As you heard me indicate to the jury, I expect that you
24 will close on Wednesday. On that day, we will take a short --
25 a longer break so that they can have some lunch. My

1 anticipation is that they will get the case in enough time to
2 probably pick a foreperson and then, you know, end -- and
3 they'll come back on Thursday to deliberate in full.

4 I've told you a couple of things that are outstanding
5 earlier about what needs to happen.

6 The stipulated facts, we need to actually have that
7 document identified I think as Exhibit A so that I can admit
8 it into evidence as -- as its own document. You've referred
9 to it and they're stipulated, but somehow I have to
10 technically get that evidence into the trial, and I think
11 that's the easiest way to do it. So let's make sure that that
12 happens.

13 I checked -- we been checking and I didn't see -- I
14 certainly never construed the word --

15 **MR. AL-SALAM:** Stage?

16 **THE COURT:** Stage.

17 **MR. AL-SALAM:** Thank you. I was thinking the same
18 thing, Your Honor.

19 **THE COURT:** I've checked everything. You-all -- no
20 one ever asked me to construe that word, so I guess at this
21 point it's plain and ordinary but I'm -- I'd like to hear
22 whether -- whether you have asked any judge in all of the
23 cases you have pending to construe that term.

24 Have you?

25 Because --

1 **MR. AL-SALAM:** My --

2 **THE COURT:** -- this now -- and I should also say it's
3 because -- and in these patent cases, I've said this before,
4 people change -- people change theories when they get rulings
5 and it's unfortunate. And it's also unfortunate that you have
6 so many cases pending against each other.

7 But it is sounding to me from the testimony that you are
8 all arguing about what the boundaries are of the patent based
9 upon the word "stage." And that's a problem because the jury
10 does not define the parameters of the patent.

11 Response.

12 **MR. AL-SALAM:** Your Honor, I was thinking the same
13 thing today and have already told my team we need to request
14 that the court interpret that term because it's purely an
15 issue of law. And we were going to do so, I'm hoping before
16 the jury conference on Monday, and explain our position on --
17 because I agree with the court that that is simply an issue of
18 law. And the jury shouldn't be required to determine what the
19 meaning of "stage" is.

20 **MR. HENDERSHOT:** I didn't think the plain and
21 ordinary meaning of that term was in dispute until relatively
22 recently. Both parties use the term in the exact same way.

23 The plain and ordinary meaning of that term as in this
24 industry is evidenced by both how Impinj uses it and NXP uses
25 it, which is entirely consistent, and it's those boxes in the

1 rectifiers. Now, they're advancing a theory that is
2 inconsistent with that and expands beyond that, as I think we
3 heard from the expert today.

4 I think the plain and ordinary meaning of that term is
5 consistent with how the parties use it. If they're going to
6 submit a construction, we can look into a position and submit
7 something Monday as well, Your Honor.

8 **THE COURT:** Well, my -- my concern is that there is
9 testimony that suggests that people are not using it in the
10 same way. I mean, you say that they are, right? But I've got
11 conflicting testimony today about what that word means and how
12 it's being used.

13 And -- and he actually used it in multiple different ways
14 and said that it has no -- it -- it has no industry meaning.
15 That's what he said. And is your -- so I have to deal with
16 that too because he said it has no -- no specific meaning.
17 What is Mr. -- is it van der Weide --

18 **MR. HENDERSHOT:** Van der Weide.

19 **THE COURT:** -- van der Weide going to -- has he said
20 whether or not that word has an industry meaning?

21 **MR. HENDERSHOT:** I think he's -- has an understanding
22 of its plain and ordinary meaning. I don't recall that he
23 says there's an industry definition. And when I say both
24 Impinj and NXP are using it the same way, I mean in their
25 documents outside of this litigation and how they describe

1 things.

2 I understand there's a conflict between how their expert
3 testified about it and how it's used in the documents. I
4 didn't mean to suggest that he had agreed with me on stage, on
5 the stand. So I don't think Dr van der Weide has an industry
6 definition, but I think he's -- sorry. Mr. Ritchie, if you
7 want to explain.

8 **MR. RITCHIE:** He discussed that as part of the
9 testimony that you have struck from his report for -- relating
10 to arguing claim construction.

11 **MR. HENDERSHOT:** Okay. So --

12 (Simultaneous colloquy.)

13 **THE COURT:** So what --

14 **MR. RITCHIE:** We can get into that and be more
15 specific with you.

16 **MR. HENDERSHOT:** Yeah.

17 **THE COURT:** What paragraphs of his report? Did any
18 of your experts ever provide a -- if it's van der Weide's
19 report, I'm assuming it's in one of your expert's report.

20 **MR. HENDERSHOT:** I -- I do know what is --

21 **THE COURT:** Ms. McCullough?

22 **MR. AL-SALAM:** Ms. McCullough knows better than I.

23 **MS. McCULLOUGH:** Your Honor, Christy McCullough for
24 Impinj.

25 I believe the situation is in Dr. Durgin's opening report,

1 it was clear what he was identifying as the stage, the
2 multiple stages. And the boxes were drawn in the exact same
3 way that he drew them during his direct testimony today.
4 That's, for example, for the record, in paragraph 190 of his
5 open report where he clearly identifies what he contends is
6 the first stage, second stage, et cetera.

7 There was no disputed claim construction issue for stage
8 during the *Markman* proceedings in this case. Neither party
9 identified that as a disputed term.

10 And so Dr. Durgin applied the plain and ordinary meaning.

11 I believe what counsel for NXP is the referring to in
12 connection with the stricken portions of Dr. van der Weide's
13 report are opinions he made based on disclaimer -- disclaimer
14 made in the IPR proceedings, not opinions about what a person
15 of ordinary skill in the art would understand that term to
16 mean.

17 **THE COURT:** Did -- today, he testified that there was
18 no -- in his view -- well, let me say it this way.

19 I expect from Impinj not to get a construction because
20 their expert says there is no construction, that there is no
21 industry understanding of that term.

22 **MR. AL-SALAM:** May I? I'm sorry. I'm sure
23 Ms. McCullough could tell you, but I was thinking about it
24 during this testimony. Our view is it's being used as just
25 a -- it's sometimes they use in -- I don't -- I've never have

1 heard this except in patent law, a nonce word. It's like a
2 unit. It's just -- or a block.

3 What it saying is that you infringe, or our patent is,
4 having "serially coupled stages," and it defines what has to
5 be in the stage. It says "two synchronous elements."

6 **THE COURT:** I understand that, but what I'm saying is
7 that -- I'm trying to resolve this, and so I'm thinking out
8 loud, right? I'm trying to decide whether or not I have to
9 construe it.

10 And I understand what your expert is saying the word
11 "stage" means in terms of this construction or in terms of
12 this --

13 **MR. AL-SALAM:** Patent.

14 **THE COURT:** -- infringement argument with respect to
15 the claims.

16 But what I also understand is that from his perspective,
17 there is no construction to be given.

18 **MR. AL-SALAM:** I'm not sure he said that, Your Honor.
19 If -- if I may, what I think he said is stage can be used in
20 different ways in the industry. So there is no -- there's no
21 uniform meaning for stage, and what he applied is what the
22 claim refers to as a stage, whether it's in 8B, which shows
23 the -- a stage with two synchronous elements. Or the actual
24 claim language itself says there is a "plurality of serially
25 coupled stages at least one of those stages having" -- and now

1 I'm paraphrasing -- two synchronous elements.

2 So the claim defines what a stage and is -- and it's
3 essentially saying if you have a repetition, at least this, in
4 something that you can draw a box around, then that's a stage.

5 Now, what they're arguing is, well, we define stage
6 differently and so does Impinj. You guys draw a box around
7 stuff in the ordinary course of business that's different
8 and -- and I don't dispute that. But what we do in the
9 ordinary course of business, how we sort of arbitrarily draw a
10 box and call that a stage, is different than what the patent
11 commands.

12 The patent tells us within its terms, both in the drawings
13 and in the description and in the claims, what it means by a
14 stage.

15 **THE COURT:** All right. A response.

16 **MR. HENDERSHOT:** He testified on the stand, their
17 expert, today that he's drawing a stage around whatever was
18 needed for infringement. He called it a nonce term. They're
19 reading the term out of the claim. It's a -- you have to have
20 a stage, and a stage has to include certain things.

21 Our evidence in our case is that our stage is different.
22 We define stage in a particular way and design our circuits
23 and stages in a particular way. Those don't have these things
24 that are required to be in the stage; therefore, we don't
25 infringe.

1 Now, I do I think -- and I shied away from saying there
2 was an industry detention of this term, Your Honor. I don't
3 think -- because I'm not aware of one in like a textbook that
4 would apply here. But I will tell the court in the concept of
5 these multi-stage rectifier circuits, it is well understood
6 what a stage is. There is a DC -- there's a voltage coming in
7 and there's a voltage pumping out on the other end with
8 circuitry inside.

9 And Dr. van der Weide can explain that in better terms
10 than I can. But that's entirely consistent with how these
11 stages are designed and implemented in NXP's products,
12 entirely consistent with how the stages are designed and
13 implemented in Impinj's products. And the only person that's
14 got a different definition is Dr. van der Weide -- or
15 Dr. Durgin who said, I'm defining it to capture everything I
16 need that's infringed -- to infringe.

17 The claim says, "It requires a plurality of stages, at
18 least one of which includes" -- and then it has things that
19 have to be within that stage. Our stages don't have those.
20 And I can -- we can provide the court a construction on Monday
21 that I think would clear it up. I do. Or at least something
22 to consider and we can discuss further because there -- there
23 is a disconnect here.

24 MS. McCULLOUGH: Your Honor, stage has never been a
25 disputed claim construction term. There was no -- apart from

1 that IPR disclaimer issue, there was no argument in
2 Dr. van der Weide's rebuttal infringement report that the
3 accused UCODE products lacked a stage under the appropriate
4 meaning of that term. He argued only this disclaimer argument
5 that Your Honor struck.

6 **MR. HENDERSHOT:** Well, it wasn't raised at claim
7 construction because they raised in the expert report after
8 claim construction started drawing around that.
9 Dr. van der Weide responded to it, saying the plain and
10 ordinary meaning of stage in my view doesn't include -- is
11 inconsistent with what is being done here. And he steps
12 through what it -- what would be understood and then pointed
13 to prosecution history and said, look, they have -- they've
14 said what a stage is. They've said a stage isn't this in
15 connection with an IPR. And we put that in, and Your Honor
16 struck that, saying it was arguing disclaimer through an
17 expert.

18 And if there is -- if there's an issue that requires a
19 construction here, I think that stuff is relevant, and we can
20 submit it to Your Honor along with a construction and an
21 explanation. Because I really do -- I really do think they --
22 if stage has any meaning in this claim, if they can't read it
23 out or call it a nonce term, we don't infringe. And the jury
24 shouldn't have to be burdened with resolving a claim
25 construction issue.

1 **MS. McCULLOUGH:** And, Your Honor, I would note only
2 that the IPR that forms the basis for NXP's alleged disclaimer
3 claim construction argument, that occurred before *Markman*
4 proceedings occurred in this -- in this case.

5 **THE COURT:** Okay. I'll consider briefs to be filed
6 no later than noon on Sunday.

7 **MS. McCULLOUGH:** Thank you, Your Honor.

8 **MR. AL-SALAM:** Thank you, Your Honor.

9 **MR. HENDERSHOT:** Thank you, Your Honor.

10 **THE COURT:** 446 is still outstanding.

11 Mr. Al-Salam, you said that there was a foundation
12 problem. I thought that what they were doing was -- and what
13 he had did -- and what he did was lay the foundation for a
14 business record. The president of the company testified as to
15 how those documents are created and relied upon. No one's
16 really questioning their trustworthiness or the sources of
17 information.

18 **MR. AL-SALAM:** I will withdraw the objection, and
19 I'll --

20 **THE COURT:** All right. So that -- 1446, then, is
21 admitted.

22 (Trial Exhibit 1446 received in evidence)

23 **THE COURT:** The -- the other thing I want to raise is
24 just a reminder that -- well, I'm certainly more versed in
25 these topics than I was when I started 10 years ago. I'm

1 still not an expert, and, you know, I -- I try to -- when I
2 have objections that where there's technical issues, you know,
3 I go and I look at the documents. And that's why I ask you
4 for paragraph numbers, and that's why I try to figure these
5 things out.

6 If you see a slide that you think could be a problem, the
7 morning is the time to raise it, not in the middle of the
8 examination. Because as far as I know, you've seen them,
9 there are no objections. We shouldn't have to stop.

10 So I -- I would have suggested to you, Mr. Hendershot,
11 that you should have raised that topic so that I could have
12 had some discussion with you before we got started at the
13 beginning of day, especially 'cause we had to get started late
14 today.

15 So if you have a concern, talk to the other side. Raise
16 it to my attention, but don't waste time during trial.

17 **MR. HENDERSHOT:** Understood, Your Honor.

18 **THE COURT:** All right. I think that's all that I
19 have.

20 I am getting from you all this updated admitted exhibits
21 list. Just remember, per my -- per my order in this case,
22 that you have to have that annotated. That is the index needs
23 to go in with the jury, so it's not just the numbers. It is
24 the -- you should use the designations on your exhibit list in
25 terms of an index for them so they can find things.

1 **MR. AL-SALAM:** A description.

2 **THE COURT:** A description. And just take it from
3 your exhibit list. That needs to be ready to go on Wednesday.
4 Okay?

5 **MR. AL-SALAM:** Understood.

6 **THE COURT:** All right. Do you all have anything
7 else?

8 **MR. AL-SALAM:** Nothing from plaintiff, Your Honor.

9 **MR. HENDERSHOT:** Just to wish the court a good
10 weekend.

11 **THE COURT:** Well, thank you. Same to you. And just
12 so that you know, there are a lot of lawyers, a lot of people.
13 When we communicate, we'll just communicate with the two of
14 you. All right? We're not sending it to listservs and
15 everything else. We expect that if someone's supposed to take
16 care of it, you'll know who -- who to send the email to. All
17 right?

18 **MR. AL-SALAM:** Understood.

19 **MR. HENDERSHOT:** Entirely fair.

20 **THE COURT:** And then if I can see the two of you
21 quick at sidebar, we're adjourned for the day. Thank you.

22 (Proceedings were concluded at 2:12 P.M.)

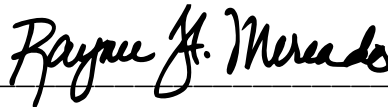
23 --o0o--

24

25

CERTIFICATE OF REPORTER

I certify that the foregoing is a correct transcript from the record of proceedings in the above-entitled matter. I further certify that I am neither counsel for, related to, nor employed by any of the parties to the action in which this hearing was taken, and further that I am not financially nor otherwise interested in the outcome of the action.



Raynee H. Mercado, CSR, RMR, CRR, FCRR, CCRR

Friday, July 7, 2023

Franz Amtmann 04-05-22 (NDCA)

Designation List Report



Amtmann, Franz

2022-04-05

Our Designations	00:13:10
Their Counters	00:01:29
<hr/>	
TOTAL RUN TIME	00:14:39



Documents linked to video:

30
32
332



P1 - Franz Amtmann 04-05-22 (NDCA)

DESIGNATION	SOURCE	DURATION	ID
10:25 - 11:06	FA040522 10:25 Q. Good morning, Mr. Amtmann. 11:01 A. Good morning. 11:02 Q. Could you state your name and address for 11:03 the record. 11:04 A. Yes. Franz Amtmann. Address, so my 11:05 private living address is Rechbauerstrasse, 18, 8010, 11:06 Graz.	00:00:19	P1.66
16:05 - 16:10	FA040522 16:05 Q. And what is your current title at NXP? 16:06 A. Technical director. 16:07 Q. How long have you been technical director 16:08 at NXP? 16:09 A. I can't say it precisely but I assume 16:10 ten years plus.	00:00:20	P1.63
18:09 - 18:12	FA040522 18:09 Q. What are your duties, your current duties, 18:10 as technical director at NXP? 18:11 A. I am responsible for the overall system 18:12 engineering for state-machine-based products for RFID.	00:00:19	P1.1
22:18 - 22:24	FA040522 22:18 Q. What was your role in connection with the 22:19 development of UCODE 8? 22:20 A. There's no difference to UCODE 7; so the 22:21 overall system architecture again, so... 22:22 Q. And in terms of the decision as to what 22:23 features to include in UCODE 8, was that, again, made 22:24 by product management?	00:00:32	P1.6
23:03 - 23:05	FA040522 23:03 THE WITNESS: Yes, it was again done by 23:04 product management because responsibility did not 23:05 change.	00:00:06	P1.7
23:07 - 23:16	FA040522 23:07 Q. And am I correct that Mr. Zach was the 23:08 product manager for UCODE 8? 23:09 A. Yes. 23:10 Q. What was your role in connection with the 23:11 development of UCODE 9? 23:12 A. Still no change to UCODE 8, so the same	00:00:38	P1.8

P1 - Franz Amtmann 04-05-22 (NDCA)

DESIGNATION	SOURCE	DURATION	ID
	23:13 overall product -- overall system architecture.		
	23:14 Q. And is Mr. -- Mr. Zach was the product		
	23:15 manager for UCODE 9?		
	23:16 A. Yes.		
26:04 - 26:05	FA040522	00:00:05	P1.9
	26:04 Q. Have you had any responsibility for		
	26:05 studying competitor products?		
26:07 - 26:11	FA040522	00:00:19	P1.10
	26:07 THE WITNESS: The overall responsibility		
	26:08 also for analysis of competitor products is within		
	26:09 product management, but, of course, they have some		
	26:10 technical questions so, therefore, I was also involved		
	26:11 there, yeah. Or I am also involved, yeah.		
26:21 - 26:25	FA040522	00:00:29	P1.11
	26:21 Q. What type of analysis or study?		
	26:22 A. First, we are doing some physical analysis		
	26:23 of all competitor products in our own lab and, second,		
	26:24 we are doing sometimes a teardown report by outside		
	26:25 companies.		
28:10 - 28:12	FA040522	00:00:10	P1.12
	28:10 Q. So, but just speaking for NXP, you're		
	28:11 saying NXP has teardown reports done for certain		
	28:12 products but not all, correct?		
28:16 - 28:16	FA040522	00:00:01	P1.13
	28:16 THE WITNESS: Yes, I said this. Yeah.		
28:18 - 28:19	FA040522	00:00:07	P1.14
	28:18 Q. What products has NXP done teardown		
	28:19 reports for, that you're aware of?		
28:23 - 29:01	FA040522	00:00:23	P1.15
	28:23 THE WITNESS: As our main focus at the		
	28:24 moment is UHF, we already have talked about the		
	28:25 Monza 4. Then I also know from the Monza 6 and from		
	29:01 the M700.		
29:07 - 29:08	FA040522	00:00:05	P1.16
	29:07 Q. How about for the Monza 6?		
	29:08 A. TechInsights, yeah.		
29:14 - 29:23	FA040522	00:00:32	P1.17

P1 - Franz Amtmann 04-05-22 (NDCA)

DESIGNATION	SOURCE	DURATION	ID
	29:14 Q. You sure it wasn't Science Vision?		P1.17
	29:15 A. Science Vision, I think, is the same as		
	29:16 Chipworks because one bought the other. I don't know		
	29:17 how it really works. It can also be Science Vision.		
	29:18 So one time we did one by Chipworks, which is Science		
	29:19 Vision, and one time we did one report by		
	29:20 TechInsights.		
	29:21 Q. And who did the M700 report?		
	29:22 A. This I know for sure, this was		
	29:23 TechInsights.		
30:06 - 30:08	FA040522	00:00:10	P1.68
	30:06 Q. Well, how does NXP use the teardown		
	30:07 reports it receives from Chipworks, Science Vision or		
	30:08 TechInsights?		
30:12 - 30:14	FA040522	00:00:10	P1.69
	30:12 THE WITNESS: To be very honest, in most		
	30:13 times these teardown report are stored somewhere but		
	30:14 nobody takes a look on it.		
30:19 - 30:24	FA040522	00:00:35	P1.18
	30:19 Q. How much do they cost approximately?		
	30:20 A. It's somewhere in the range, so if we talk		
	30:21 about TechInsights, for example, I would say 20,		
	30:22 30,000 US dollars because we only have a non-exclusive		
	30:23 right to use them; means that TechInsights, for		
	30:24 example, can sell it to every person who wants it.		
31:09 - 31:10	FA040522	00:00:05	P1.19
	31:09 Q. What is the cost of the report that		
	31:10 Science Vision charges?		
31:13 - 31:15	FA040522	00:00:17	P1.20
	31:13 THE WITNESS: In the past, in the past		
	31:14 they were about in the same range but currently they		
	31:15 are much more expensive than TechInsights.		
31:17 - 31:17	FA040522	00:00:01	P1.21
	31:17 Q. How much do they cost?		
31:21 - 31:23	FA040522	00:00:15	P1.22
	31:21 THE WITNESS: As far as I remember, two to		
	31:22 three times more than TechInsights. But I am not		
	31:23 doing any price negotiations.		

P1 - Franz Amtmann 04-05-22 (NDCA)

DESIGNATION	SOURCE	DURATION	ID
31:25 - 32:02	FA040522	00:00:24	P1.70
	31:25 Q. Have you looked at those teardown reports?		
	32:01 A. Only after being addressed with IP issues		
	32:02 from Impinj. But not before.		
32:05 - 32:16	FA040522	00:00:42	P1.71
	32:05 Q. I'm sorry, I didn't understand that		
	32:06 answer. I apologize. Did you say you'd never done it		
	32:07 before this litigation?		
	32:08 A. Not -- I did not really look into it		
	32:09 because -- I only checked for completeness because we		
	32:10 had to pay this company, that's clear. So I checked		
	32:11 if the report, in my view, is complete, meaning if all		
	32:12 the top circuits in, if the detailed circuits in, if		
	32:13 the memory interface and this kind of stuff, what it		
	32:14 is in, so this, of course, I checked. But I am not an		
	32:15 analog designer so I did not dig into any details on		
	32:16 the circuits in any of these teardown reports.		
35:22 - 35:24	FA040522	00:00:15	P1.23
 332	35:22 MR. AL-SALAM: Okay. Let me turn your		
	35:23 attention to what we'll call Exhibit 2 to your		
	35:24 deposition, which is numbered 11904 through 12090.		
36:23 - 37:06	FA040522	00:00:41	P1.24
	36:23 Q. Do you recognize this as a teardown report		
	36:24 but for the Monza R6 chip?		
	36:25 A. I have to scroll a little through the		
	37:01 document.		
	37:02 Yes, I cannot judge on each page here but		
	37:03 it looks like it is the circuit analysis report of		
	37:04 such a chip, yeah.		
	37:05 Q. Have you seen this report before?		
	37:06 A. Yes.		
37:22 - 37:23	FA040522	00:00:05	P1.25
	37:22 Q. Okay. And is it your testimony that		
	37:23 Mr. Zach is the one that ordered this report?		
38:02 - 38:02	FA040522	00:00:00	P1.26
	38:02 THE WITNESS: Yes.		
39:03 - 39:05	FA040522	00:00:09	P1.27
	39:03 Q. So just to confirm, as you sit here today,		

P1 - Franz Amtmann 04-05-22 (NDCA)

DESIGNATION	SOURCE	DURATION	ID
	39:04 the only people you're sure of who looked at the		
	39:05 report were Mr. Brandl and Mr. Zach; is that correct?		
39:08 - 39:08	FA040522	00:00:01	P1.28
	39:08 THE WITNESS: Yes, correct.		
44:14 - 44:16	FA040522	00:00:11	P1.29
	44:14 Q. But there was a decision made, after		
	44:15 seeing the Monza R6 chip, to put large contact pads		
	44:16 for the UCODE 8 chip, correct?		
44:21 - 44:22	FA040522	00:00:04	P1.30
	44:21 THE WITNESS: Yes, but I was not involved		
	44:22 in this decision.		
86:22 - 86:23	FA040522	00:00:06	P1.31
	86:22 Q. Okay. Has NXP ever done a teardown of any		
	86:23 competitor products other than Impinj products?		
87:02 - 87:03	FA040522	00:00:07	P1.32
 Clear	87:02 THE WITNESS: If you limit a teardown to		
	87:03 reports from external companies, no.		
96:09 - 96:10	FA040522	00:00:05	P1.33
 30	96:09 Q. So let me turn your attention to what was		
	96:10 previously marked as Brandl Exhibit 12.		
96:22 - 96:22	FA040522	00:00:01	P1.34
	96:22 Q. And what is it?		
96:25 - 97:05	FA040522	00:00:20	P1.35
	96:25 THE WITNESS: For me, it looks like it		
	97:01 might be stage charge pump.		
	97:02 BY MR. AL-SALAM:		
	97:03 Q. It's a schematic for the multiple-stage		
	97:04 charge pump on UCODE 9, correct?		
	97:05 A. It's a block schematic, yes.		
97:21 - 97:22	FA040522	00:00:04	P1.36
	97:21 Q. For 12, could you also refer to that as		
	97:22 a rectifier?		
98:01 - 98:04	FA040522	00:00:16	P1.37
 Clear	98:01 THE WITNESS: If you understand on the		
	98:02 rectifier the same as I understand, that it is a		
	98:03 circuit which converts an AC input voltage to a		
	98:04 DC output voltage, in that case, yes.		

P1 - Franz Amtmann 04-05-22 (NDCA)

DESIGNATION	SOURCE	DURATION	ID
100:06 - 100:08  32	FA040522 100:06 Am I correct that Brandl Exhibit 14 is a 100:07 schematic of each of the blocks from Brandl 100:08 Exhibit 12?	00:00:11	P1.38
100:12 - 100:17	FA040522 100:12 THE WITNESS: For me, it looks like that 100:13 it is one single stage out of that diagram we have 100:14 seen before, yes. 100:15 BY MR. AL-SALAM: 100:16 Q. Okay. And does this confirm that it is 100:17 a differential rectifier?	00:00:15	P1.39
100:19 - 100:20	FA040522 100:19 THE WITNESS: Yes. If I look on the 100:20 structure, yes.	00:00:02	P1.67
101:20 - 101:22	FA040522 101:20 Q. Now, am I right that current flows from 101:21 RFP on the top left of the schematic through that 101:22 node?	00:00:11	P1.41
102:01 - 102:03	FA040522 102:01 THE WITNESS: In certain time intervals, 102:02 yes. It depends on the contour signals on each 102:03 transistor, but in certain time frames, yes.	00:00:12	P1.42
102:18 - 102:19	FA040522 102:18 Q. So what is the current path when it flows 102:19 from RFP through that node?	00:00:06	P1.43
102:23 - 103:11	FA040522 102:23 THE WITNESS: There's one main path. This 102:24 one main path is flowing through MP3 to the output 102:25 node. I do not know what's the name -- it's called 103:01 "out." And there's a second leakage part going 103:02 through MN6, flowing to capacitor C9, which is in the 103:03 middle below. Yeah. 103:04 So there are different paths: one, as 103:05 I said, the main path is MP3 to the output pin, and 103:06 then you have a second leakage path between -- goes 103:07 through MN6. 103:08 BY MR. AL-SALAM: 103:09 Q. This leakage path is what you call	00:01:19	P1.44

P1 - Franz Amtmann 04-05-22 (NDCA)

DESIGNATION	SOURCE	DURATION	ID
	103:10 parasitic, right? It's not intended, it's not an 103:11 intended path?		
103:15 - 104:01	FA040522	00:00:58	P1.45
	103:15 THE WITNESS: "Intended" is an expression. 103:16 If, in a silicon process, always only intended things 103:17 work, then anyone could do an analog design. But in 103:18 a real silicon process you always have to deal with 103:19 intended and parasitic topics; therefore, you cannot 103:20 avoid any non-intended features and, therefore, you 103:21 have to make your design also included non-intended 103:22 functionalities in your design. 103:23 BY MR. AL-SALAM: 103:24 Q. Okay. But what you're referring to as 103:25 the leakage path is something you agree is what's 104:01 called a parasitic, correct?		
104:05 - 104:08	FA040522	00:00:16	P1.46
	104:05 THE WITNESS: Yes, this is correct. It's 104:06 parasitic but you also can use parasitic effects in a 104:07 way that it contributes to a functionality of a 104:08 circuit. This is very often done.		
104:20 - 104:21	FA040522	00:00:09	P1.64
	104:20 Q. What transistors is that biasing, is the 104:21 leakage -- is the leakage path biasing?		
104:25 - 105:08	FA040522	00:01:00	P1.65
 Clear	104:25 THE WITNESS: Biasing is -- I have to take 105:01 a closer look here. Normally, it's biasing the gates 105:02 of the main transistor. So there is a path to the 105:03 gate on the MN6 and, of course, as it is symmetric, 105:04 there is the same path on the other side for the MP3, 105:05 and this path is going to the gate and going to a -- 105:06 through the diode transistors -- to the transistors 105:07 made -- or switch these diodes or use these diodes on 105:08 the bottom of the circuit.		
142:16 - 142:17	FA040522	00:00:07	P1.47
	142:16 Have you ever seen any signs around NXP 142:17 Austria that say "Kill Impinj"?		
142:21 - 142:25	FA040522	00:00:10	P1.48
	142:21 THE WITNESS: I have seen such statements 142:22 but this is more than ten years ago.		

P1 - Franz Amtmann 04-05-22 (NDCA)

DESIGNATION	SOURCE	DURATION	ID
	142:23 BY MR. AL-SALAM:		
	142:24 Q. Where did you see the statements? Were		
	142:25 they on signage?		
143:02 - 143:08	FA040522	00:00:13	P1.49
	143:02 THE WITNESS: I think they were on some		
	143:03 PowerPoint slides or something like this.		
	143:04 But what do you mean with "signage"?		
	143:05 BY MR. AL-SALAM:		
	143:06 Q. Okay. And you haven't seen that for ten		
	143:07 years?		
	143:08 A. Yes.		
143:10 - 143:11	FA040522	00:00:03	P1.72
	143:10 THE WITNESS: No, but this is correct,		
	143:11 I have not seen it for ten years, yeah.		

Our Designations	00:13:10
------------------	----------

Their Counters	00:01:29
----------------	----------

TOTAL RUN TIME	00:14:39
-----------------------	-----------------



Documents linked to video:

30

32

332

Franz Amtmann 01-19-23 (WDTX)

Designation List Report



Amtmann, Franz

2023-01-19

Our Designations

00:02:07

TOTAL RUN TIME

00:02:07



P3 - Franz Amtmann 01-19-23 (WDTX)

DESIGNATION	SOURCE	DURATION	ID
43:21 - 43:21	FA011923 43:21 Q. Do the UCODE 7, 8 and 9 have leakage circuits?	00:00:02	P3.1
43:23 - 44:03	FA011923 43:23 A. Leakage circuits is a term I don't understand. Of 43:24 course each element, each real element, a meaning each 43:25 a transistor cap has some leakage, but that is not 44:01 a leakage circuit. 44:02 Q. What happens to that leakage from a transistor cap? 44:03 Where does it go?	00:00:20	P3.2
44:05 - 44:10	FA011923 44:05 A. As I said, it is an effect by real devices which is not 44:06 intended, and electrons, or whatever, if it is positive 44:07 or negative, are going to substrate or to supply voltage 44:08 or whatever, unintended. 44:09 Q. And is that leakage, does the leakage from a transistor 44:10 cap follow a path? Or where does it go when it leaks?	00:00:51	P3.3
44:12 - 44:18	FA011923 44:12 A. As it is an unintended effect, you never can -- no, 44:13 I will phrase it in a different way. As it is an 44:14 unintended effect it is not in, reflected completely in 44:15 the models. You would only see in 3D electromagnetic 44:16 simulations on ICs where it is really going. 44:17 Q. Having a leak, having leakage from a transistor cap is 44:18 something, is that avoidable?	00:00:49	P3.4
44:20 - 44:22	FA011923 44:20 A. Correct. 44:21 Q. It is not avoidable, right? 44:22 A. Yes.	00:00:04	P3.5

Our Designations

00:02:07

TOTAL RUN TIME**00:02:07**

Hermann Zach 05-13-22 (NDCA)

Designation List Report



Zach, Hermann

2022-05-13

Our Designations

00:15:44

Their Counters

00:02:55

TOTAL RUN TIME

00:18:39



Documents linked to video:

157P

335



P28 - Hermann Zach 05-13-22 (NDCA)

DESIGNATION	SOURCE	DURATION	ID
10:23 - 11:03	HZ051322 10:23 Q. Good morning, Mr. Zach. 10:24 A. Good morning. 10:25 Q. Just for the record, could you state your 11:01 full name and address. 11:02 A. So my name is Hermann Zach. I am located 11:03 at Waldgasse 13 A, 8055, Seiersberg.	00:00:17	P28.1
11:09 - 11:16	HZ051322 11:09 Q. And by whom are you currently employed? 11:10 A. NXP. 11:11 Q. NXP Austria? 11:12 A. NXP Austria. 11:13 Q. And what is your title? 11:14 A. I'm product manager. 11:15 Q. How long have you been product manager? 11:16 A. Since 2007.	00:00:20	P28.2
18:18 - 19:01	HZ051322 18:18 Q. And you've been product manager for 18:19 UCODE 8, correct? 18:20 A. Yes. 18:21 Q. You've been the only product manager for 18:22 UCODE 8? 18:23 A. Correct. 18:24 Q. And have you been the only product manager 18:25 for UCODE 9? 19:01 A. Correct.	00:00:13	P28.3
19:11 - 19:14	HZ051322 19:11 Q. What -- in terms of -- as you probably 19:12 know, we're most interested in UCODE 7, UCODE 8, 19:13 UCODE 9 in this case. What have your responsibilities 19:14 been as product manager for those products?	00:00:15	P28.4
19:18 - 19:21	HZ051322 19:18 THE WITNESS: Product manager, as it is in 19:19 my department, is from product creation until, yeah, 19:20 product discontinuation; so that's managing the whole 19:21 product life cycle.	00:00:21	P28.5
19:25 - 20:12	HZ051322 19:25 Q. So what is your role as a product manager 20:01 in terms of the whole product life cycle? What do you	00:01:04	P28.6

P28 - Hermann Zach 05-13-22 (NDCA)

DESIGNATION	SOURCE	DURATION	ID
	20:02 do?		
	20:03 A. First, the first step is generating ideas		
	20:04 on product, sharing this or discussing or getting		
	20:05 feedback on our ideas from the market, collecting		
	20:06 information, getting additional input, what we		
	20:07 were not thinking about and what the market requires		
	20:08 and, yeah, then translate the customer wishes,		
	20:09 combining -- so combining inputs from the market and		
	20:10 generating a product specification, a high-level		
	20:11 product specification, which is then handed over to		
	20:12 engineering.		
21:11 - 21:13	HZ051322	00:00:04	P28.7
	21:11 You're the interface between engineering		
	21:12 and marketing?		
	21:13 A. Correct.		
32:06 - 32:17	HZ051322	00:00:44	P28.8
	32:06 Q. Is your job in any way to monitor		
	32:07 competitive products?		
	32:08 A. Yes.		
	32:09 Q. And what is your role in terms of		
	32:10 monitoring competitive products?		
	32:11 A. It's -- so, in general, monitoring all		
	32:12 competitors on the market on new products and, yeah,		
	32:13 evaluate them, checking data sheets and, yeah,		
	32:14 preparing a table, a comparison table, NXP products to		
	32:15 other products.		
	32:16 Q. Do you know what a teardown is?		
	32:17 A. Yes.		
32:25 - 33:12	HZ051322	00:01:06	P28.9
	32:25 Q. Let me be clear. So, we understand, for		
	33:01 example, that NXP hired an outside company to do a		
	33:02 analysis of the Monza R6 IC. Are you aware of that?		
	33:03 A. Yes.		
	33:04 Q. Were you involved in the decision to have		
	33:05 that company do that analysis?		
	33:06 A. Yes. Yes.		
	33:07 Q. Was it your idea to begin with?		
	33:08 A. No.		
	33:09 Q. Whose idea was it?		
	33:10 A. I can't hundred percent recall but someone		

P28 - Hermann Zach 05-13-22 (NDCA)

DESIGNATION	SOURCE	DURATION	ID
	33:11 from the system architecture, like Franz Amtmann might		
	33:12 -- for sure was involved.		
34:03 - 34:22	HZ051322	00:01:13	P28.10
	34:03 Q. And they sometimes provide services to NXP		
	34:04 where they do an analysis of a competitive product?		
	34:05 A. Yes.		
	34:06 Q. And do you know that they did one for the		
	34:07 Monza R6?		
	34:08 A. Yes.		
	34:09 Q. Do you know whose idea it was that Science		
	34:10 Vision do that, what I call a teardown of the Monza R6		
	34:11 product?		
	34:12 A. I said before, I don't recall. It's just		
	34:13 my assumption would have been that Franz Amtmann was		
	34:14 there involved --		
	34:15 Q. And --		
	34:16 A. -- based on his role in our shop here.		
	34:17 Q. And what is your understanding about his		
	34:18 role in terms of why he would have had that done?		
	34:19 A. My understanding is to get additional		
	34:20 information which I could not gain from data sheets,		
	34:21 label investigation. That's the -- that's the main		
	34:22 intention of such teardowns, to -- yeah.		
38:16 - 38:19	HZ051322	00:00:12	P28.11
	38:16 Q. So to the best of your recollection, the		
	38:17 decision to have Science Vision do a teardown of the		
	38:18 Monza R6 IC was a group decision?		
	38:19 A. Correct.		
38:20 - 39:21	HZ051322	00:02:07	P28.28
	38:20 Q. Did you review the report from Science		
	38:21 Vision?		
	38:22 A. Yes, but I don't know if you are aware of		
	38:23 this report, how such a report looks like. So it		
	38:24 starts with the overview on the sizes, the block		
	38:25 sizes, the process which is used. That is the part		
	39:01 I'm looking to. That is where I'm interested in. I'm		
	39:02 not the engineer looking further into details; so		
	39:03 that's not how far my role goes during the competitor		
	39:04 analysis.		
	39:05 Because if you have on one IC, you see		

P28 - Hermann Zach 05-13-22 (NDCA)

DESIGNATION	SOURCE	DURATION	ID
	39:06 parts, yeah, but with this teardown you're getting		
	39:07 more information on the block sizes, and that is where		
	39:08 I'm interested in and that is, to my understanding,		
	39:09 also the first step for engineering to see,		
	39:10 for example, a memory which is used there, the size of		
	39:11 the memory, which technology is used, and this could		
	39:12 be then used in our competitor analysis to see, okay,		
	39:13 the size is that and ours might be bigger,		
	39:14 for example, how can we manage to come down with a		
	39:15 certain size.		
	39:16 That's the main intention and that's the		
	39:17 reason why, for me, only the first, I don't know, is		
	39:18 it ten, five pages, I can't remember, that's		
	39:19 interesting for me as a product manager, because we		
	39:20 also need to challenge then our guys internally to		
	39:21 become better or getting different solutions.		
43:18 - 43:20	HZ051322	00:00:05	P28.12
	43:18 Q. Are you involved in creating the data		
	43:19 sheets for the NXP products?		
	43:20 A. Yes.		
51:15 - 52:10	HZ051322	00:01:16	P28.13
	51:15 Q. Do you know what I mean when I say "large		
	51:16 antenna pads"?		
	51:17 A. Yeah. So in the context we are sitting		
	51:18 here, I think I know what you mean by "large antenna		
	51:19 pads."		
	51:20 Q. And the UCODE 8 product has large antenna		
	51:21 pads, correct?		
	51:22 A. Correct.		
	51:23 Q. And those were not on the original UCODE 7		
	51:24 product, correct?		
	51:25 A. That's correct.		
	52:01 Q. And am I correct that your customer		
	52:02 requirements specification put large pads for the		
	52:03 UCODE 8?		
	52:04 A. Correct.		
	52:05 Q. And why did you do that?		
	52:06 A. The reason for this, so -- the reason for		
	52:07 this is based on collection of market requirements,		
	52:08 I call it, meaning interviews with customers. This		




P28 - Hermann Zach 05-13-22 (NDCA)

DESIGNATION	SOURCE	DURATION	ID
	52:09 was one point which was -- yeah, which was mentioned		
	52:10 on their side as, yeah, they like it.		
53:07 - 53:12	HZ051322	00:00:28	P28.14
	53:07 Q. Did you talk to all of those customers		
	53:08 that I just named in connection with creating the		
	53:09 customer requirements specification for UCODE 8?		
	53:10 A. With respect to Avery, SML, Smartrac, I'm		
	53:11 quite sure that I talked to them. On Arizon, I don't		
	53:12 think so.		
54:13 - 54:17	HZ051322	00:00:25	P28.15
	54:13 Q. And do you recall whether these customers		
	54:14 said they liked the large pads because they liked		
	54:15 their experience with the large pads on the Monza R6?		
	54:16 A. So I don't recall such statement, but		
	54:17 Monza R6 was the only product on the market, so...		
55:20 - 55:23	HZ051322	00:00:13	P28.16
	55:20 Q. So you're saying -- maybe you misspoke.		
	55:21 You're saying the large pads were new in the UHF		
	55:22 market after Monza R6 introduced them, correct?		
	55:23 A. Correct.		
56:14 - 57:06	HZ051322	00:01:15	P28.17
	56:14 Q. I guess what I'm asking is, did you get		
	56:15 feedback from customers about the large pads on the		
	56:16 UCODE 8 product?		
	56:17 A. I don't remember a dedicated feedback, but		
	56:18 what I can state here is we were for sure asking		
	56:19 what's the experience, because if we introduce		
	56:20 something new, we always ask what do you think about.		
	56:21 But I can't recap a dedicated customer		
	56:22 communication, but it would be also wrong if I say we		
	56:23 did not check; so for sure we are checking.		
	56:24 Q. And you put the large pads as part of the		
	56:25 specification for UCODE 9, correct?		
	57:01 A. Correct.		
	57:02 Q. So does that suggest that if there		
	57:03 was customer feedback, it was positive?		
	57:04 A. Correct. Based on the experience we		
	57:05 gained from UCODE 8, we took it over, then, to		
	57:06 UCODE 9.		

P28 - Hermann Zach 05-13-22 (NDCA)

DESIGNATION	SOURCE	DURATION	ID
74:18 - 74:25	HZ051322	00:00:40	P28.18
	74:18 Q. Do you recognize Brandl Exhibit 10?		
	74:19 A. Yes, yes.		
	74:20 Q. And is this a document you prepared?		
	74:21 A. Yeah. So the style, the style is mine,		
	74:22 and since it's marked on the first page, I think		
	74:23 it's -- since you said it's -- I assume it's from		
	74:24 Roland Brandl but generated from my side and then		
	74:25 shared, as it seems, with system architect.		
78:01 - 78:10	HZ051322	00:00:50	P28.24
 157P.2	78:01 Q. And on Special Features, you have a list		
	78:02 of special features for Monza R6. Do you see that?		
	78:03 A. Correct.		
	78:04 Q. And one of them says "Enduro Technology		
	78:05 (copper bumps)." Is that referring to the large pads?		
	78:06 A. Yes. So I think -- not I think. So		
	78:07 Enduro Technology is the trademark name for how --		
	78:08 we call it large -- we call it large pads because		
	78:09 large bumps is, again, something different and, yeah,		
	78:10 that's the bumping technology of R6 called Enduro.		
78:11 - 78:17	HZ051322	00:00:22	P28.25
 157P.3	78:11 Q. On the next page, page 3 of Brandl		
	78:12 Exhibit 10, you have a target and it says "R6" and		
	78:13 it says:		
	78:14 "... must defend our UCODE 7 position and		
	78:15 needs to target Impinj R6."		
	78:16 Is that your language that you put there?		
	78:17 A. Yes.		
82:07 - 82:25	HZ051322	00:01:25	P28.20
 157P.6	82:07 Q. And under "Assembly techniques" it says:		
	82:08 "Benchmarking of Impinj R6 technology."		
	82:09 What do you mean by "benchmarking"?		
	82:10 A. Benchmarking meaning comparing to existing		
	82:11 solutions.		
	82:12 Q. So you wanted to compare assembly		
	82:13 techniques with the Impinj Monza R6 technology?		
	82:14 A. Correct.		
	82:15 Q. Have you ever heard the term "Kill Impinj"		
	82:16 at NXP?		
	82:17 A. Yes.		

P28 - Hermann Zach 05-13-22 (NDCA)

DESIGNATION	SOURCE	DURATION	ID
	82:18 Q. Where did you hear that?		
	82:19 A. It was -- so it was the time where I was		
	82:20 not involved in UCODE, but it was the same -- the same		
	82:21 team with the same leader and it was -- so I heard it		
	82:22 just from communication with colleagues, yeah, that		
	82:23 this was raised by the guy heading the department at		
	82:24 this point of time, also responsible from the segment		
	82:25 for UHF.		
103:02 - 103:06	HZ051322	00:00:26	P28.26
 335.1	103:02 Q. Do you recognize this draft customer		
	103:03 requirements specification for UCODE 8?		
	103:04 A. Yes.		
	103:05 Q. Is this something you prepared?		
	103:06 A. Yes.		
103:07 - 103:24	HZ051322	00:00:52	P28.27
 335.9	103:07 Q. If you go to page 9, which has on the very		
	103:08 bottom 5449, it says -- it's titled, under 1.3,		
	103:09 "UCODE 8 Study." Do you see that?		
	103:10 A. Yes.		
	103:11 Q. And it has the "Broadband design"		
	103:12 reference again and it says:		
	103:13 "Auto tuning: competitor analysis (design		
	103:14 and label)."		
	103:15 Do you see that?		
	103:16 A. Yes.		
	103:17 Q. And then on the bottom, it says:		
	103:18 "Physical competitor analysis of Impinj		
	103:19 R6: Full analysis by Science Vision (Block analysis,		
	103:20 process, Analog circuit, Digital (area only), Memory		
	103:21 (circuit, cross section)."		
	103:22 Is that referring to the teardown report		
	103:23 that we talked about earlier?		
	103:24 A. Yes.		
106:15 - 107:04	HZ051322	00:00:54	P28.22
 335.15	106:15 Q. Okay. Let's go to page 15, under 1.5.6		
	106:16 "Assembly Related." If you look down, at one point		
	106:17 it says:		
	106:18 "Impinj introduced with their 'Enduro		
	106:19 Technology' (2 big copper pads) a complete new concept		
	106:20 into the UHF market. First feedback which was		

P28 - Hermann Zach 05-13-22 (NDCA)

DESIGNATION	SOURCE	DURATION	ID
	106:21 reported to us from the market with respect to		
	106:22 handling, assembly tolerances, and reliability is		
	106:23 quite promising."		
	106:24 You wrote that, correct?		
	106:25 A. Correct.		
	107:01 Q. And so was that true at the time, that you		
	107:02 were getting feedback from the market, essentially		
	107:03 that customers liked the Enduro technology with the		
	107:04 two big copper pads?		
107:05 - 107:14	HZ051322	00:00:48	P28.29
	107:05 A. So, as stated there, it's not that they		
	107:06 like it. So at this point of time when we wrote this,		
	107:07 the feedback from the customer was -- as you are		
	107:08 reading it:		
	107:09 "... with respect to handling, assembly		
	107:10 tolerance and reliability [it is] quite promising."		
	107:11 So no further inputs on this one, as far		
	107:12 as I recap.		
	107:13 So usually I only can tell what we hear		
	107:14 from the customers and, yeah, on high level.		
107:15 - 107:24	HZ051322	00:00:42	P28.23
	107:15 Q. Okay. And you did think this was a		
	107:16 completely new concept in the UHF market, these large		
	107:17 pads?		
	107:18 A. In the UHF market, it was new because it		
	107:19 was the first product with this -- yeah, with the		
	107:20 bigger pads. For other markets, so since I'm also		
	107:21 dealing with other products, we had such large pads		
	107:22 already, I don't know. Back in 2000 or 2001. But it		
	107:23 was not in the UHF area, so, therefore, it was really		
	107:24 the first one in the UHF market.		

Our Designations	00:15:44
Their Counters	00:02:55
TOTAL RUN TIME	00:18:39



Documents linked to video:



157P

335

Drew Dannels 11-16-22 (WDWA)

Designation List Report



Dannels, John Andrew

2022-11-16

Our Designations

00:05:46

TOTAL RUN TIME

00:05:46



Documents linked to video:

224D

224F


224P

224P2

224P3



P10 - Drew Dannels 11-16-22 (WDWA)

DESIGNATION	SOURCE	DURATION	ID
6:15 - 6:21	AD111622 6:15 I know the last time we met, I had 6:16 your name incorrect, so if you would do me a 6:17 favor and state your full name for the record 6:18 so we have it and make sure we all get it 6:19 right? 6:20 A. Yes, of course. John Andrew 6:21 Dannels. I go by Drew.	00:00:14	P10.25
8:06 - 8:16	AD111622 8:06 Q. Okay. And at that point in time, I 8:07 believe you were an employee of Impinj with the 8:08 title of vice president, financial planning and 8:09 analysis; is that right? 8:10 A. Yes. 8:11 Q. Is that still your title today? 8:12 A. Yes. 8:13 Q. Has there been any changes in your 8:14 responsibilities since you were deposed in 8:15 April of 2022? 8:16 A. No.	00:00:27	P10.3
89:18 - 89:23	AD111622 89:18 (Exhibit No. 6 marked 89:19 for identification.) 89:20 BY MS. STITT: 89:21 Q. It's an Excel sheet produced by 89:22 Impinj bearing the Bates No. Impinj_NXP_WD 89:23 text_00009504.	00:00:17	P10.14
90:25 - 91:05  224D	AD111622 90:25 A. Yes. The data represented here is 91:01 DANNELS - HIGHLY CONFIDENTIAL - AEO 91:02 the financial value of the finished goods 91:03 inventory, and this is from representation of 91:04 Row 6 on the tab next to it, called "Data All 91:05 Stages."	00:00:22	P10.16
92:23 - 93:10	AD111622 92:23 Q. Okay. So in Data All Stages, and 92:24 this is for the endpoint ICs, correct? 92:25 A. Yes. 93:01 DANNELS - HIGHLY CONFIDENTIAL - AEO	00:00:26	P10.26

P10 - Drew Dannels 11-16-22 (WDWA)

DESIGNATION	SOURCE	DURATION	ID
	93:02 Q. And we've got -- you said the data		
	93:03 is in Row 6 and that's "FG" for "finished		
	93:04 goods," right?		
	93:05 A. Yes.		
	93:06 Q. And the two rows above that, "Raw"		
	93:07 is raw materials?		
	93:08 A. Yes.		
	93:09 Q. And WIP?		
	93:10 A. Work in progress.		
93:11 - 94:25	AD111622	00:02:30	P10.27
 224P	93:11 Q. Okay. And if we move -- so we've		
	93:12 seen Graph and Data All Stages tab. There are		
	93:13 a few other tabs in this Exhibit 6 starting		
	93:14 with 2022?		
	93:15 A. Yes.		
	93:16 Q. What is found in this tab?		
	93:17 A. Sure. I'll articulate this tab and		
	93:18 it -- your reflection of the other tabs as		
	93:19 well.		
	93:20 The -- in this tab, our financial		
	93:21 systems, whether it would have been AX '09 or		
	93:22 D365 has a standard report called PID. That is		
	93:23 an acronym for "physical inventory dimension."		
	93:24 There are certain columns, but not all columns		
	93:25 that are the -- from this particular report,		
	94:01 DANNELS - HIGHLY CONFIDENTIAL - AEO		
	94:02 and there are some columns that are added by		
	94:03 accounting for analysis purposes in each of		
	94:04 these years between 2022, 2020 to 2021 and 2017		
	94:05 to 2019.		
	94:06 The -- my understanding is the PID		
	94:07 for 2022 is Columns A to E. For '20 -- the		
	94:08 next two tabs of 2020 to 2021, it would be A to		
	94:09 F and then the same for 2017 to 2019.		
	94:10 Q. Okay. So just let me make sure I've		
	94:11 got that right. The physical inventory		
	94:12 dimension is what we're measuring here, right?		
	94:13 A. Yes.		
	94:14 Q. And in 2022, that is found in		
	94:15 Columns A through E, correct?		

P10 - Drew Dannels 11-16-22 (WDWA)

DESIGNATION	SOURCE	DURATION	ID
	94:16 A. Yes. This is our physical 94:17 inventory, yes. 94:18 Q. So is it the whole of Columns A 94:19 through E that are referred to as the Physical 94:20 Inventory Dimension? 94:21 A. Yes, the PID report is -- 94:22 Q. Okay. 94:23 A. This is the native report pulled 94:24 from the PID. These are -- this is the native 94:25 report.		
96:16 - 96:23  Clear	AD111622 96:16 Q. Was this -- is this something that 96:17 was prepared in the ordinary course of business 96:18 or for the purpose of litigation? 96:19 A. The tabs 2022 and everything to the 96:20 right are the tabs from the ordinary course of 96:21 business. The Data All Stages and the Graph 96:22 tab was used to summarize this for this 96:23 process.	00:00:24	P10.28
96:24 - 97:04  224P2	AD111622 96:24 Q. Okay. And going back to what you 96:25 refer to as the PID report, so for 2020 to 97:01 DANNELS - HIGHLY CONFIDENTIAL - AEO 97:02 2021, that is found in Columns A through F, 97:03 correct? 97:04 A. Yes.	00:00:11	P10.30
97:05 - 97:12  224P3	AD111622 97:05 Q. And 2017 to 2019, that tab looks a 97:06 little different and has a bit more in terms of 97:07 more columns than the other tabs, correct? 97:08 A. That is correct and -- but the PID 97:09 is from Column A to Column F. 97:10 Q. Okay. And the rest of the data, was 97:11 that added by accounting for analysis? 97:12 A. Yes.	00:00:25	P10.31
97:13 - 97:22  224F	AD111622 97:13 Q. Okay. And there are -- the Family 97:14 tab item? 97:15 A. Sure. All of the other tabs were	00:00:31	P10.32

P10 - Drew Dannels 11-16-22 (WDWA)

DESIGNATION	SOURCE	DURATION	ID
97:16	part of the workbooks that were supporting the		
97:17	roll up of these years, and so the -- the ask		
97:18	is to -- was to grab the native files and not		
97:19	do any adjustments.		
97:20	Q. Okay. Got ya'. So all of those are		
97:21	supporting for the Year tabs before them, okay.		
97:22	A. Correct, yes.		

Our Designations

00:05:46

TOTAL RUN TIME**00:05:46**

Documents linked to video:

224D

224F

224P

224P2

224P3